ENVIRONMENTAL ASSESSMENT

# Crow Boundary Settlement Act

## Phase 4 Land Exchange



JULY • 2001

Photo by: Gary Leppart

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times. Management is based on the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation; rangelands; timber; minerals; watershed; fish and wildlife; wilderness; air; and scenic, scientific, and cultural values.

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# 1.0 INTRODUCTION AND BACKGROUND

## *1.1 Background*

The Crow Boundary Settlement Act of 1994 mandated the Bureau of Land Management to acquire State and private land inside of the Crow Indian Reservation as a part of the legislation developed to redress a century-old boundary survey error. For many years after the discovery of the survey error the Crow Tribe sought resolution of the problem via Congressional legislation. Finally, on November 2, 1994 the Crow Boundary Settlement Act (CBSA) was enacted and signed into law. Figure 1-1 is a map representation of this survey error and indicates separate parcels that are specifically addressed in the CBSA. This legislation, in part, provided for the following:

1. It reaffirmed the true 107th Meridian location as the eastern boundary of the Crow Indian Reservation. This re-affirmation had the effect of moving the erroneous monumented boundary easterly to its correct on-the-ground location coinciding with the 107th Meridian (Parcel 1 in Figure 1-1).

2. It created an agreement whereby the Crow Tribe relinquished its claim to land which was located in the Northern Cheyenne Indian Reservation as a result of correcting the on-the-ground location of the 107th Meridian (Parcel 2 in Figure 1-1).

3. It provided for a relinquishment by the Crow Tribe of surface and mineral ownership claims on Parcels 3 and 4 (Figure 1-1).

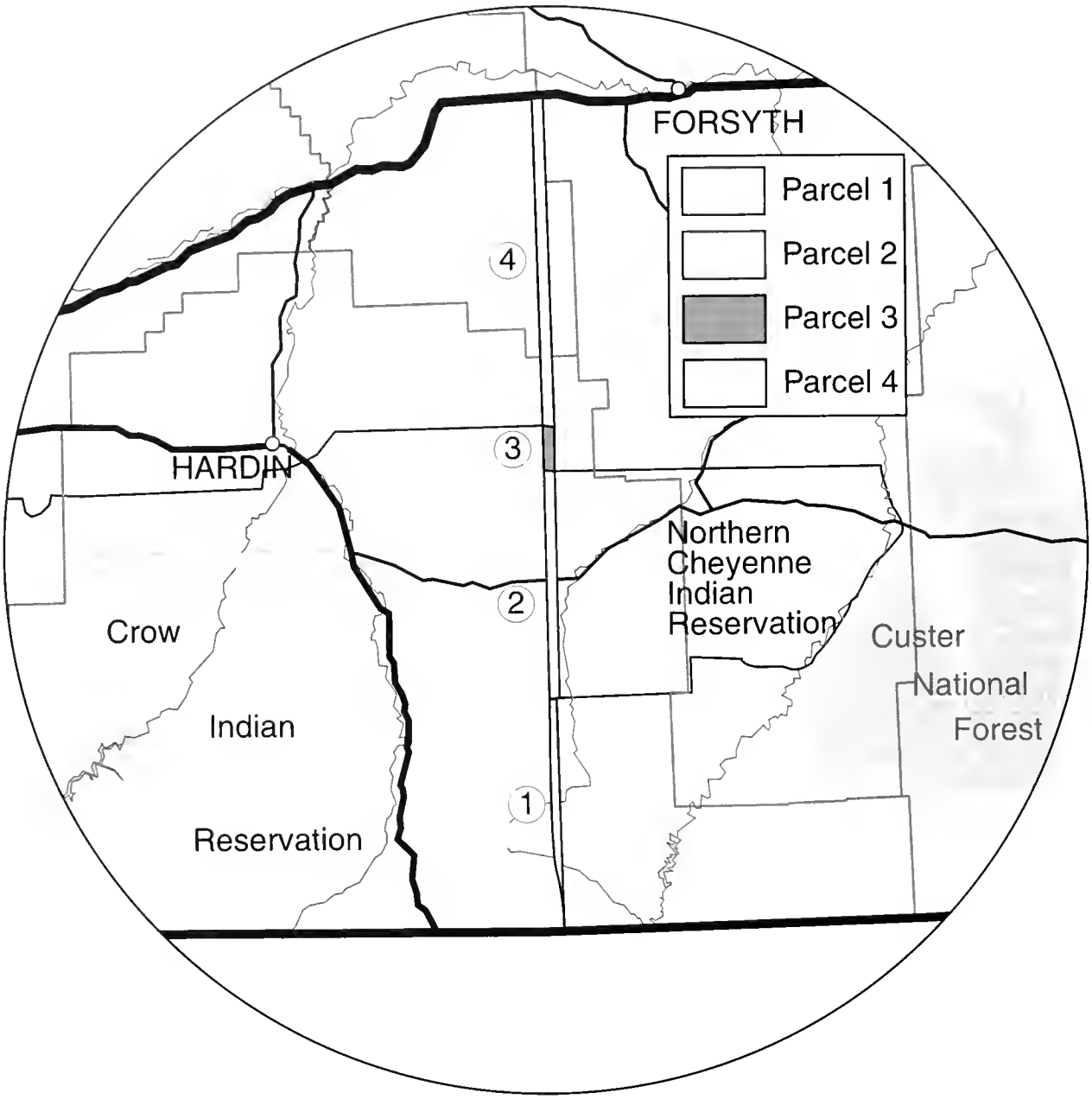
4. In compensation for relinquishment of lands on the Northern Cheyenne Reservation and north to the Yellowstone River, it created a mechanism whereby the Crow Tribe could acquire State-owned land and private land located inside of the Reservation through the land exchange process. Public land managed by the Bureau of Land Management (BLM) and located outside of the Reservation was to be used as a means to complete both the BLM/State land exchanges in Phases 1, 2, and 3 and the assembled exchange to be completed in Phase 4.

The exchanges with the State of Montana, Phases 1, 2, and 3, have been completed and as a result, all State-owned land within the Crow Indian Reservation has been acquired by the Federal government and will be held in trust by the United States for the Crow Indian Tribe. The final phase of the Land Exchange Project (Phase 4), which is the acquisition of private land inside of the Reservation, is now being processed and is being analyzed in this Environmental Assessment.

The private land to be acquired in Phase 4 inside of the Crow Indian Reservation is a part of the Pryor Creek Ranch. This Ranch was identified for acquisition by the Crow Tribe in 1999 in accordance with the Crow Boundary Settlement Act and, because a commitment had to be made to acquire the land, the Ranch was actually purchased by the Tribe in January of 2000. Per the Act, the BLM must now acquire a portion of that land and it must be held in trust for the Crow Tribe by the United States. The amount of acreage to be acquired by the Federal government must have an appraised value which is equal to the difference between the total value of the State Trust lands originally located within the exterior boundaries of the Crow Reservation (45,049.04 acres) and the value of the State lands which were acquired by the United States at the completion of Phases 1, 2, and 3(33,293.32 acres). The difference in the aforementioned acreages is 11,755.72 acres (45,049.04 minus 33,293.32) and this acreage is recognized to be the original State lands which were disposed by the State of Montana and it is the value of those lands which will be utilized to determine how much of the Pryor Creek Ranch will be acquired by the United States.

Because the 11,755.72 acres were transferred out of State ownership many years ago, the use of those lands by subsequent private landowners has significantly changed the character of much of those lands. Therefore, the valuation of the 11,755.72 acres will be determined by multiplying the average per acre appraised value of those State lands acquired by BLM in Phases 1, 2, and 3 ($141.99 per acre) times the 11,755.72 acres, or $1,669,194.70.

*Figure 1-1 107th Meridian Settlement Map*



## 1.2 Purpose and Need for the Proposed Action

The purpose of this Environmental Assessment is to comply with the National Environmental Policy Act (NEPA) to address the impacts of the fourth exchange of land (designated Phase 4) which has been proposed pursuant to the CBSA. This exchange of land is between BLM and the Crow Indian Tribe. The BLM lands are scattered tracts[1] mostly located in central, northern, and southeastern Montana under the jurisdiction of the Lewistown and Miles City BLM Field Offices and the Havre and Glasgow Field Stations. There is about eighty acres located within the Dillon Field Office near Ennis in Madison County. The private land to be acquired consists of a portion of the Pryor Creek Ranch which was purchased by the Crow Tribe in January of 2000 in preparation for this final phase of the Land Exchange Project.

Three separate exchanges (Phases 1, 2, and 3)have been completed whereby all of the State lands within the Crow Reservation have been acquired by the Federal government. While this Environmental Assessment (EA) addresses only the last of the exchanges proposed under the Crow Boundary Settlement Act, understandings between the entities involved, programmatic agreements, and some of the environmental information developed and impacts analyzed are common to all of the exchanges. Thus, this EA incorporates by reference and is tiered[2] to the EAs prepared for the previous land exchanges.

## 1.3 Public Scoping

Initially, before any exchanges were proposed, the CBSA Steering Committee[3] sponsored two public hearings in Billings and one at Crow Agency to inform the public of the details of the CBSA and the concepts relative to land exchanges which would be used to implement the Act.

Six scoping meetings were held for Phase 4. These scoping meetings were fairly well attended, with a total of 65 persons attending. These meetings were held as follows:

| | |
|---|---|
| October 3, 2000 | BLM Glasgow Field Station |
| October 4, 2000 | BLM Malta Field Office |
| October 5, 2000 | BLM Havre Field Station |
| October 6, 2000 | BLM Lewistown Field Office |
| October 11, 2000 | Big Horn County Courthouse at Hardin, MT |
| October 12, 2000 | City Hall at Forsyth, MT |

Most of those in attendance were grazing lessees and / or adjacent landowners of the BLM land. The remainder of the attendees were County Commissioners, reporters for local media, politicians or their representatives, and other interested parties. A Notice of Exchange Proposal was sent to all lessees of the affected BLM lands, those entities holding third party interests, and those who submitted written comments as a result of the scoping meetings. The Notice of Exchange Proposal was also published in the newspapers of general circulation in the area of the exchange lands for the purpose of informing the public and seeking comments.

[1] Terms like tract, parcel, property, and lands are used interchangeably in this EA in general usage referring collectively to lands involved in the exchange. When describing specific lands, the term "parcel" is generally used for a property that has a unique, single legal description which may consist of more than one tract of BLM land.

[2] Tiering is the incorporation by reference of the general discussion and concentrating solely on the issues specific to environmental documents subsequently prepared. (40 CFR 1508.28)

[3] The CBSA Steering Committee consists of representatives from the Montana Association of Counties, Montana Department of Natural Resources and Conservation, the Crow Tribe, the Bureau of Land Management, the Solicitor's Office of the Department of Interior, and is chaired by a Bureau of Indian Affairs representative.

The most common interest at the scoping meetings was in regards to the appraised values of the BLM tracts and the appraisal process to be utilized. There was also much interest as to what would happen if the BLM grazing lessee was not interested in acquiring a BLM tract at the appraised fair market value. Other concerns were expressed in regards to the time frame for completion of the exchange, the cost of the facilitator to the entity acquiring the BLM land, and whether the subsurface estate was to be included in the proposed land exchange.

## *1.4 Conformance with BLM Land Use Plans*

Initially, BLM policy in Montana regarding the exchange of public lands was developed specifically in the Supplement to State Director Guidance for Resource Management Planning in Montana and the Dakotas for Land Pattern Review and Land Adjustment of 1984, and the State Director Guidance-Access of 1989; which established retention and disposal zones throughout Montana. However, as Resource Management Plans (RMPs) were completed, the criteria developed in those RMPs for retention or disposal of public land superceded the criteria in the aforementioned 1984 document. The Powder River Resource Area RMP of 1985 and the Big Dry Resource Area RMP of 1996 reiterate the criteria for disposal and retention areas. Similar language is found in the West HiLine and Judith-Valley-Phillips RMPs, although these RMPs were more "tract specific".

Criteria for inclusion of retention lands is also discussed in the RMPs. For example, in the Big Dry Resource Management Plan under "Retention Areas" states, "Individual tracts or parcels in the retention areas may be disposed or repositioned through sale or exchange when significant management efficiency, greater public values, or other objectives would be met." The Congressional mandate for exchange in the Crow Boundary Settlement Act of 1994 provides a significant "other objective" that justifies the use of retention lands.

Some of the BLM lands identified for use in Phase 4 were not analyzed for disposal in the West HiLine, Powder River Resource Area, and Judith-Valley-Phillips Resource Management Plans. These lands are identified in the Notice of Intent to Amend, which can be found in Appendix A. This Environmental Assessment will analyze the effects of disposing of those lands and will provide the basis for amending those RMPs to allow for disposal of the affected BLM lands.

The proposed land exchange would be in conformance with the Dillon Resource Area Management Framework Plan (MFP) completed in September of 1979. The Dillon MFP provides for the exchange of public lands to achieve greater efficiency with regard to administration and to meet national objectives.

The proposed exchange is also in conformance with the Supplement to State Director Guidance for Resource Management Planning in Montana and the Dakotas for Land Pattern Review and Land Adjustment. This supplement was published in 1984 to provide guidance for all major types of land adjustment. Three types of criteria were established to provide guidance in categorizing the public lands and making decisions concerning specific land adjustment actions—retention, disposal, and acquisition. Criteria in the supplement were used to identify retention and disposal zones for Montana. Retention zones predominantly contain better blocked public lands that meet the retention criteria, define areas where BLM intends to retain existing public lands and hopes to acquire additional lands through exchange. Disposal zones are areas where BLM lands have been identified for potential removal from BLM administration— preferably through exchange. Most of the BLM parcels being considered for use in this exchange are in disposal zones. However, BLM has the discretion to include retention lands in an exchange to serve an important public purpose, such as those embodied in the Crow Boundary Settlement Act.

The lands to be acquired inside of the Crow Indian Reservation were not addressed in BLM's land use plans, however, in regards to the acquisition of these

lands, the RMP's allow for the acquisition of lands which facilitate national, state, or local priorities or mission statement needs. The Crow Boundary Settlement Act is a national priority and it specifically requires that BLM acquire private land inside of the Reservation through the use of land exchanges to compensate for the 11,755.72 acres of State land which had been disposed. Once these private lands are acquired, they are to be held in trust by the United States for the sole use and benefit of the Crow Tribe.

## *1.5 Relationship to Statutes, Regulations, Mutual Agreements, or other Plans*

As required in the Act, the proposed land exchange would be processed in accordance with Section 206 of the Federal Land Policy and Management Act of 1976, as amended, and the regulations at 43 CFR 2200.

The BLM lands being considered for use in the exchange are located in Rosebud, Custer, Chouteau, Blaine, Phillips, Valley, Fergus, Hill, Meagher, and Madison Counties and the lands to be acquired are located in Big Horn and Yellowstone Counties. None of the counties has a county-wide comprehensive land use plan which would affect this action.

Most of the BLM properties are currently leased for livestock grazing. Transfer of ownership of those lands would be completed in conformance with the grazing regulations at 43 CFR 4120. This regulation provides for a two-year notification to grazing lessees prior to the conveyance of the BLM land. No mineral values are involved and the mineral estates will not be transferred.

# 2.0 PROPOSED ACTION AND ALTERNATIVES

## *2.1 Proposed Action*

### 2.1.1 Proposed Action (Exchange Alternative)

This alternative provides for an assembled exchange which will utilize certain scattered isolated tracts of BLM land located mostly in southeastern, northern, and central Montana in an assembled exchange in order to acquire certain private lands located within the Crow Indian Reservation. The Crow Boundary Settlement Act requires that if the value of the land acquired from the State of Montana in Phases 1, 2, and 3 is not equivalent to the value of the land originally granted to the State within the Crow Indian Reservation, then additional land is to be acquired inside of the Reservation through private land exchanges. The State of Montana obtained title to 45,049.04 acres of land within the Crow Indian Reservation. Of those 45,049.04 acres once owned by the State, 33,293.32 acres were still in State ownership at the beginning of the CBSA exchange process and 11,755.72 acres had been disposed by the State of Montana (45,049.04 minus 33,293.32) at some time between 1920 and the passage of the Act in 1994. The CBSA places an initial priority for the first five years after passage of the Act for exchanging BLM lands for the remaining State land on the reservation and then processing an assembled exchange in order to acquire private land inside of the Crow Reservation which would be equivalent to the value of the 11,755.72 acres disposed by the State.

The Crow Tribe was requested, prior to the initiation of Phase 4, to identify private land within the Reservation which was available for acquisition and which they would want to have acquired in Phase 4. Subsequently, in January of 2000, the Crow Tribe acquired the Pryor Creek Ranch in anticipation of processing this proposed assembled land exchange.

The Crow Tribe acquired the land at that time because the current owner needed to expedite the conveyance and as a result the Tribe had to make a commitment regarding the acquisition of the land. The United States must now acquire a portion of that property from the Crow Tribe which is equal to the difference between the total value of the State lands located within the exterior boundaries of the Crow Reservation (45,049.04 acres) and the value of the State lands which have been acquired by the United States from the State of Montana in Phases 1, 2, and 3(33,293.32 acres). As stated previously, the difference in the aforementioned acreages is 11,755.72 acres and it is the value of those lands which will be utilized to determine how much of the private land in Table 2-1 will be acquired by the United States. Because the 11,755.72 acres were transferred out of State ownership many years ago, it is difficult to ascertain the specific legal description of those lands and additionally, the use of those lands by subsequent private landowners has significantly changed the character of much of those lands. Therefore, it was agreed by all parties that the valuation of the 11,755.72 acres was to be determined by multiplying the average per acre appraised value of those State lands acquired by BLM in Phases 1, 2, and 3($141.99 per acre) times the 11,755.72 acres, or $1,669,194.70.

The specific proposed action for Phase IV is to utilize the BLM lands described in Table 2-2 in an assembled exchange process in order to acquire a portion ($1,669,194.70) of the private land described in Table 2-1. It is expected that some of the BLM lands ultimately may not be disposed for various reasons and as a result, a Phase IVA may be needed to satisfy the remainder of BLM's obligations pursuant to the Crow Boundary Settlement Act. The BLM lands are further described in Chapter 3, the Affected Environment, and an analysis of the impacts of the disposal of those lands is provided in Chapter 4. The Notice of Decision, which will be distributed and published after the Environmental Assessment is finalized, will identify specifically the BLM land to be utilized in this first assembled exchange.

The BLM land consists of 178 individual tracts totaling 21,965.90 acres. In Table 2-2, these properties are combined for convenience into "parcels," with a single parcel number, where a parcel may consist of more than one property. Parcel numbers are used to identify tracts of BLM land throughout the Environmental Assessment without having to resort to the legal descriptions. The BLM exchange lands are under the jurisdiction of several BLM field offices and field stations. Thirty parcels have been proposed for disposal from the Miles City Field Office totaling 7511.65 acres; 11 parcels totaling 2753.68 acres from the Glasgow Field Station; 19 parcels totaling 5891.91 acres under the Malta Field Office; 50 parcels totaling 4200.43 acres under the Havre Field Station, one parcel from the Dillon Field Office totaling 87.35 acres, and 18 parcels totaling 1,520.88 acres under the Lewistown Field Office. The BLM lands are identified on those maps in Figures 2-2 to 2-24. The Parcel numbers on those maps (Figures 2-2 to 2-24) correspond with the Parcel numbers listed in Table 2-2.

The BLM parcels in Blaine, Chouteau, Rosebud, and Valley Counties, which are listed in Appendix A, were not specifically identified for disposal in the West HiLine, Powder River Resource Area, and Judith-Valley-Phillips Resource Management Plans. The proposed disposal of those BLM lands will be concurrently analyzed in this Environmental Assessment, along with the other BLM lands to be exchanged.

## 2.2 *Other Alternatives*

### 2.2.1 No Action

This alternative is required by the National Environmental Policy Act and would be considered to be viable if it is determined that no action (i.e. no exchange as proposed) is in the public's interest. However, it would not mean that an exchange would not occur at some time because BLM will still be under the mandate of the Crow Boundary Settlement Act to provide the Crow Tribe, through an assembled exchange, private lands inside of the Crow Reservation that are equivalent in value to the 11,755.72 acres which had been previously disposed by the State of Montana.

| Table 2-1 Private Lands in Phase IV of the Crow Boundary Settlement Act Land Exchange Project | | |
|---|---|---|
| **Legal Description** - Principal Meridian Montana | County | Acres |
| T4S, R27E | | |
| Section 27: N2SW, SE | Big Horn | 240.00 |
| Section 29: SWNE, SENW, E2SW, SE, W2W2 | Big Horn | 480.00 |
| Section 30: SE | Big Horn | 160.00 |
| Section 31: Lots 6, 7, 8, W2NE, NWSE | Big Horn | 240.00 |
| Section 32: S2NE | Big Horn | 80.00 |
| Section 33: NE, S2NW | Big Horn | 240.00 |
| Section 34: W2W2, SE | Big Horn | 320.00 |
| T4S, R28E | | |
| Section 14: W2W2W2W2 | Big Horn | 40.00 |
| Section 15: E2, E2E2W2, E2E2W2E2W2, E2W2E2W2E2W2, E2W2W2E2W2E2W2 | Big Horn | 435.00 |
| Section 19: Lot 7, NESE | Big Horn | 77.99 |
| Section 20: All | Big Horn | 640.00 |
| Section 21: All | Big Horn | 640.00 |
| Section 22: N2N2NENE, S2SW | Big Horn | 90.00 |
| Section 23: NWSW | Big Horn | 40.00 |
| Section 27: NW, NWNE, W2SWNE, W2SW, N2NESW, SWNESW, W2SESW | Big Horn | 350.00 |
| Section 28: All | Big Horn | 640.00 |
| Section 29: All | Big Horn | 640.00 |
| Section 30: Lots 5, 6, 11, 12, 13, 14, E2SW, SE | Big Horn | 474.58 |
| Section 31: Lots 7, 8, S2SWNE | Big Horn | 101.21 |
| Section 32: Lots 3, 4, E2W2 , W2E2 | Big Horn | 402.30 |
| Section 33: All | Big Horn | 640.00 |
| Section 34: NWNW, SWSWNW, W2NWSW, N2SWNW | Big Horn | 90.00 |
| T5S, R28E | | |
| Section 4: Lots 2, 3, 4, S2NW, W2SWNE, N2SW, SWSW, W2SESW | Big Horn | 362.97 |
| Total Big Horn County | | 7424.05 |
| T4S, R27E | | |
| Section 2: Lot 4, SW | Yellowstone | 210.94 |
| Section 3: Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, SE | Yellowstone | 601.28 |
| Section 10: W2E2 | Yellowstone | 160.00 |
| Section 11: NW, NWSW | Yellowstone | 200.00 |
| Section 12: S2S2NE, N2N2SE | Yellowstone | 80.00 |
| Section 15: NE | Yellowstone | 160.00 |
| Section 16: All | Yellowstone | 640.00 |
| Section 17: NE, SW | Yellowstone | 320.00 |
| Section 22: N2S2 | Yellowstone | 160.00 |
| Section 24: SWSE, N2SE | Yellowstone | 120.00 |
| T4S, R28E | | |
| Section 2: Lots 1, 2, 3, 4, S2N2, S2 | Yellowstone | 645.76 |
| Section 3: Lots 1, 2, SE, S2NE | Yellowstone | 323.90 |
| Section 10: E2 | Yellowstone | 320.00 |
| Section 11: W2 | Yellowstone | 320.00 |
| Total Yellowstone County | | 4261.88 |
| Total Acres for Big Horn and Yellowstone Counties | | 11,685.93 |

| Table 2-2 BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Legal Description - Principal Meridian Montana | Parcel No. | County | Acres |
| T21N, R9E, Sec. 22: SESW | JC-039 | Chouteau | 40.00 |
| T21N, R9E, Sec. 22: SESE | JC-040 | Chouteau | 40.00 |
| T21N, R9E, Sec. 25: NESW | JC-064 | Chouteau | 40.00 |
| T20N, R13E, Sec. 2: W2SW | JC-061 | Chouteau | 80.00 |
| T22N, R17E, Sec. 18: SESE | F-004 | Fergus | 40.00 |
| T21N, R16E, Sec. 4: E2SW<br>Sec. 9: NENW | F-018 | Fergus | 120.00 |
| T21N, R17E, Sec. 4: Lot 2, SESE<br>Sec. 5: Lot 1, SENE<br>Sec. 9: NESE<br>Sec. 10: SWNW, N2SW | F-019 | Fergus | 320.88 |
| T21N, R17E, Sec. 22: SENE<br>Sec. 23: NWSW | F-020 | Fergus | 80.00 |
| T21N, R17E, Sec. 27: SESW<br>Sec. 28: SWSW, SWSE<br>Sec. 33: SWNE, SENW, NWSE | F-021 | Fergus | 240.00 |
| T20N, R15E, Sec. 30: NESW<br>Sec. 31: S2NE | F-035 | Fergus | 120.00 |
| T20N, R16E, Sec. 21: SENW<br>Sec. 22: NWSE | F-037 | Fergus | 80.00 |
| R19N, R22E, Sec. 29: NWSE | F-065 | Fergus | 40.00 |
| T18N, R22E, Sec. 3: SENW | F-074 | Fergus | 40.00 |
| T17N, R22E, Sec. 32: SESE<br>Sec. 33: SWSW | F-095 | Fergus | 80.00 |
| T15N, R19E, Sec. 2: SESE | F-114 | Fergus | 40.00 |
| T19N, R24E, Sec. 20: NW | F-174 | Fergus | 160.00 |
| T9N, R11E, Sec. 8: SESE | M-101 | Meagher | 40.00 |
| T10N, R11E, Sec. 31: SESE<br>Sec. 32: SWSW | M-102 | Meagher | 80.00 |
| T37N, R32E, Sec. 10: W2NW | P-001 | Phillips | 80.00 |
| T37N, R32E, Sec. 1: SE<br>T37N, R33E, Sec. 6: Lots 6 and 7, E2SW | P-002 | Phillips | 332.29 |
| T37N, R32E, Sec. 23: NW | P-003 | Phillips | 160.00 |
| T37N, R33E, Sec. 19: NE | P-004 | Phillips | 160.00 |
| T36N, R33E, Sec. 31: Lots 2, 3, and 4 | P-008 | Phillips | 119.27 |
| T35N, R34E, Sec. 32: E2 | P-009 | Phillips | 320.00 |
| T34N, R29E, Sec. 17: NE | P-018 | Phillips | 160.00 |
| T34N, R30E, Sec. 30: NE | P-022 | Phillips | 160.00 |
| T34N, R33E, Sec. 6: Lot 2 | P-027 | Phillips | 40.36 |
| T33N, R27E, Sec. 27: NESE, SWSW | P-059 | Phillips | 80.00 |
| T32N, R28E, Sec. 20: NWSE | P-068 | Phillips | 40.00 |
| T32N, R28E, Sec. 34: E2SW, SE<br>T31N, R28E, Sec. 3: Lot 1, SENE | P-071 | Phillips | 319.99 |
| T29N, R29E, Sec. 2: S2SW<br>Sec. 11: All<br>Sec. 14: N2N2, SWNW<br>Sec. 15: S2NE, SE | P-108 | Phillips | 1160.00 |

| Table 2-2 BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Legal Description - Principal Meridian Montana | Parcel No. | County | Acres |
| T29N, R29E, Sec. 15: E2SW<br>Sec. 22: NWNE | P-109 | Phillips | 120.00 |
| T29N, R29E, Sec. 26: NW<br>Sec. 27: NE, SWNW | P-110 | Phillips | 360.00 |
| T28N, R30E, Sec. 8: E2<br>Sec. 17: All<br>Sec. 18: NE | P-125 | Phillips | 1120.00 |
| T28N, R29E, Sec. 28: W2<br>Sec. 29: NENW<br>Sec. 33: E2NW, S2<br>Sec. 34: NE | P-130 | Phillips | 920 |
| T26N, R28E, Sec. 4: W2SW<br>Sec. 5: E2SE | P-145 | Phillips | 160.00 |
| T26N, R29E, Sec. 19: SESW, SWSE | P-188 | Phillips | 80.00 |
| T23N, R34E, Sec. 14: E2NW | V-000 | Valley | 80.00 |
| T37N, R42E, Sec. 2: SE, SESW<br>Sec. 11: N2NE<br>Sec. 12: NWNW | V-001 | Valley | 320.00 |
| T37N, R42E, Sec. 3: NWSE, S2SE<br>Sec. 10: NENE | V-002 | Valley | 160.00 |
| T37N, R41E, Sec. 5: SW | V-003 | Valley | 160.00 |
| T35N, R39E, Sec. 26: W2SE<br>Sec. 35: W2NE | V-015 | Valley | 160.00 |
| T29N, R37E, Sec. 12: Lots 9 and 10, N2NW, SENW, NESW | V-032 | Valley | 240.00 |
| T30N, R37E, Sec. 15: SWSW | V-037 | Valley | 40.00 |
| T31N, R34E, Sec. 26: SESE<br>Sec. 35: SESE<br>T30N, R34E, Sec. 1: SW, W2SE<br>Sec. 12: Lot 1, NWNE, S2NW | V-038 | Valley | 478.07 |
| T31N, R34E, Sec. 25: S2S2, NWSW<br>T31N, R35E, Sec. 31: Lots 3, 4, and 5, SE NW,SWSE<br>T30N, R35E, Sec. 6: Lot 14 | V-043 | Valley | 457.95 |
| T26N, R40E, Sec. 14: N2NE, NW, W2SW | V-073 | Valley | 320.00 |
| T30N, R35E, Sec. 4: Lots 5, 6, and 7<br>Sec. 5: Lots 3 and 4<br>T31N, R35E, Sec. 32: Lot 3, NESW, N2SE | V-076 | Valley | 337.66 |
| T36N, R22E, Sec. 31: SENW | B-002 | Blaine | 40.00 |
| T32N, R19E, Sec. 3: Lot 3 | B-004 | Blaine | 39.10 |
| T32N, R22E, Sec. 6: Lot 4 | B-005 | Blaine | 34.58 |
| T32N, R20E, Sec. 14: S2SE | B-010 | Blaine | 80.00 |
| T32N, R19E, Sec. 22: SENE, NESE | B-011 | Blaine | 80.00 |
| T32N, R20E, Sec. 19: W2NE, NWSE | B-012 | Blaine | 120.00 |
| T32N, R19E, Sec. 26: W2SW | B-013 | Blaine | 80.00 |
| T31N, R21E, Sec. 20: NWNE | B-016 | Blaine | 40.00 |
| T31N, R22E, Sec. 18: SESE | B-017 | Blaine | 40.00 |
| T29N, R21E, Sec. 24: SESW | B-029 | Blaine | 40.00 |
| T29N, R21E, Sec. 24: SESE | B-030 | Blaine | 40.00 |

| Table 2-2 BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Legal Description - Principal Meridian Montana | Parcel No. | County | Acres |
| T28N, R21E, Sec. 7: Lot 1, NENW | B-035 | Blaine | 77.06 |
| T28N, R21E, Sec. 6: SESE | B-036 | Blaine | 40.00 |
| T28N, R21E, Sec. 17: NWSW<br>Sec. 18: NESE | B-037 | Blaine | 80.00 |
| T28N, R21E, Sec. 17: S2SE | B-038 | Blaine | 80.00 |
| T28N, R21E, Sec. 19: NWNE | B-039 | Blaine | 40.00 |
| T27N, R17E, Sec. 26: SWNW | B-040 | Blaine | 40.00 |
| T27N, R17E, Sec. 26: NESW | B-041 | Blaine | 40.00 |
| T27N, R17E, Sec. 34: SESE | B-042 | Blaine | 40.00 |
| T27N, R21E, Sec. 11: SWNW, NWSW | B-065 | Blaine | 80.00 |
| T36N, R19E, Sec. 25: W2 | B-092 | Blaine | 320.00 |
| T36N, R20E, Sec. 18: NE | B-096 | Blaine | 160.00 |
| T26N, R19E, Sec. 7: NESE | B-143 | Blaine | 40.00 |
| T24N, R18E, Sec. 25: SENE | B-157 | Blaine | 40.00 |
| T31N, R25E, Sec. 6: SWSE<br>Sec. 8: NWNW<br>Sec. 21: Lots 2 and 5<br>Sec. 23: Lot 4<br>Sec. 26: Lots 1 and 6<br>Sec. 27: Lot 1<br>Sec. 28: Lot 1 | B-189 | Blaine | 234.96 |
| T24N, R7E, Sec. 14: S2NW | HC-004 | Chouteau | 80.00 |
| T24N, R7E, Sec. 3: SENW, N2SW | HC-007 | Chouteau | 120.00 |
| T24N, R7E, Sec. 3: SWSE | HC-008 | Chouteau | 40.00 |
| T27N, R16E, Sec. 11: NWSE | HC-012 | Chouteau | 40.00 |
| T26N, R16E, Sec. 2: SESW | HC-013 | Chouteau | 40.00 |
| T26N, R16E, Sec. 3: Lot 1 | HC-014 | Chouteau | 39.96 |
| T26N, R16E, Sec. 3: NESE | HC-015 | Chouteau | 40.00 |
| T26N, R16E, Sec. 17: E2NE | HC-018 | Chouteau | 80.00 |
| T26N, R16E, Sec. 18: Lot 1 | HC-019 | Chouteau | 34.47 |
| T26N, R16E, Sec. 30: NESE | HC-020 | Chouteau | 40.00 |
| T26N, R16E, Sec. 33: SESW | HC-022 | Chouteau | 40.00 |
| T26N, R17E, Sec. 4: SESW | HC-024 | Chouteau | 40.00 |
| T24N, R16E, Sec. 17: NENW | HC-030 | Chouteau | 40.00 |
| T24N, R16E, Sec. 20: NESE | HC-032 | Chouteau | 40.00 |
| T24N, R16E, Sec. 21: SWSW, W2NE | HC-034 | Chouteau | 120.00 |
| T26N, R13E, Sec. 5: SWSE | HC-041 | Chouteau | 40.00 |
| T26N, R13E, Sec. 8: NESW | HC-042 | Chouteau | 40.00 |
| T26N, R13E, Sec. 17: NENW | HC-043 | Chouteau | 40.00 |
| T24N, R8E, Sec. 4: Lots 1 and 2, SWNE | HC-058 | Chouteau | 125.78 |
| T23N, R15E, Sec. 12: SENW,NESW, W2SE<br>Sec. 13: NE<br>Sec. 24: NWSW | HC-064 | Chouteau | 360.00 |
| T24N, R16E, Sec. 18: Lot 3 | HC-066 | Chouteau | 28.84 |

| Table 2-2 BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Legal Description - Principal Meridian Montana | Parcel No. | County | Acres |
| T23N, R15E, Sec. 17: SENW, SWNE<br>Sec. 21: N2N2, SWNW<br>Sec. 22: NWSE<br>Sec. 23: E2SW<br>Sec. 25: NENW | HC-068 | Chouteau | 440.00 |
| T37N, R11E, Sec. 2: Lots 5, 6, 7, and 8, SWNE | H-001 | Hill | 114.04 |
| T32N, R11E, Sec. 5: Lot 1 | H-008 | Hill | 31.64 |
| T30N, R11E, Sec. 1: NESE | H-011 | Hill | 40.00 |
| T3N, R39E, Sec. 12: Lots 1, 2, 3, and 4, S2SW, W2SE | MC-1 | Rosebud | 353.96 |
| T3N, R40E, Sec. 2: Lots 1, 2, 3, 4, S2N2, S2 | MC-2 & MC-36 | Rosebud | 640.60 |
| T3N, R40E, Sec. 6: Lot 7, SENE, E2SE | MC-3 & MC-4 | Rosebud | 155.85 |
| T3N, R40E, Sec. 8: N2N2, S2S2 | MC-5 & MC-6 | Rosebud | 320.00 |
| T3N, R40E, Sec. 18: Lot 1 | MC-7 | Rosebud | 36.15 |
| T3N, R40E, Sec. 18: NENE, S2NE, SE | MC-8 | Rosebud | 280.00 |
| T3N, R40E, Sec. 30: Lots 1, 2, 3, 4, E2, E2W2 | MC-9 | Rosebud | 624.64 |
| T3N, R41E, Sec. 2: Lots 1, 2, S2NE, SE | MC-10 | Rosebud | 320.25 |
| T3N, R41E, Sec. 4: NESE, S2SE | MC-11 | Rosebud | 120.00 |
| T3N, R41E, Sec. 6: Lots 1, 2, S2NE, SE | MC-12 | Rosebud | 320.15 |
| T3N, R41E, Sec. 10: S2SW | MC-13 | Rosebud | 80.00 |
| T3N, R42E, Sec. 6: Lot 1 | MC-14 | Rosebud | 44.65 |
| T3N, R42E, Sec. 12: W2 | MC-15 & MC-38 | Rosebud | 320.00 |
| T3N, R42E, Sec. 18: Lots 2, 3, N2NE, SE | MC-16, MC-17, & MC-18 | Rosebud | 320.28 |
| T4N, R39E, Sec. 4: NWSW | MC-19 | Rosebud | 40.00 |
| T4N, R40E, Sec. 26: SESE | MC-20 | Rosebud | 40.00 |
| T4N, R40E, Sec. 28: E2SW, SE | MC-21 | Rosebud | 240.00 |
| T4N, R40E, Sec. 32: NWNW | MC-22 | Rosebud | 40.00 |
| T4N, R40E, Sec. 32: SESE | MC-23 | Rosebud | 40.00 |
| T4N, R42E, Sec. 22: N2NE, SENE, NW,SWSW | MC-24 & MC-25 | Rosebud | 320.00 |
| T4N, R43E, Sec. 22: All | MC-26 | Rosebud | 640.00 |
| T4N, R43E, Sec. 26: N2N2 | MC-27 | Rosebud | 160.00 |
| T4N, R43E, Sec. 28: Lots 1and 2, NE, E2NW | MC-28 | Rosebud | 326.54 |
| T4N, R43E, Sec. 28: Lots 3 and 4, E2SW, SE | MC-29 | Rosebud | 326.58 |
| T4N, R43E, Sec. 32: SENE | MC-30 | Rosebud | 40.00 |
| T4N, R43E, Sec. 32: SENW | MC-31 | Rosebud | 40.00 |
| T4N, R43E, Sec. 34: All | MC-32 | Rosebud | 640.00 |
| T6N, R38E, Sec. 26: E2 | MC-33 & MC-39 | Rosebud | 320.00 |
| T7N, R45E, Sec. 4: NWSW | MC-34 | Custer | 40.00 |
| T8N, R45E, Sec. 28: W2 | MC-35 | Custer | 320.00 |
| T4S, R2W, Sec. 2: Lot 7<br>Sec. 10: Lots 1, 2, 3, 4, 5, 16, 17, and 18, S2SWSE | D-1 | Madison | 87.35 |
| Total BLM Acres | | | 21,965.90 |

## 2.2.2 Selection of other BLM Lands

Another alternative would be to select other BLM lands within the respective boundaries of the Montana BLM Field Offices. The selection of additional BLM lands, other than the 21,965.90 acres identified in this Environmental Assessment would require a cultural inventory of many of those new BLM tracts and possibly an amendment of the affected land use plans. An additional effort to conduct cultural inventories on significantly more BLM disposal tracts would delay the final completion of the overall assembled land exchange portion of this project and would require substantial additional time and funding. However, it is possible that for various reasons not all of the 21,965.90 BLM acres identified will be disposed in this exchange and there will not be enough value on the BLM side to fully satisfy the final land exchange requirements of the Crow Boundary Settlement Act. If this occurs, new BLM lands will have to be identified and processed in a subsequent assembled exchange. This would require the preparation of a separate Environmental Assessment document to analyze the exchange of those new BLM tracts to fulfill the final land exchange requirements of the Crow Boundary Settlement Act. Since a new Environmental Assessment would be required to address any new BLM lands which would be needed, this alternative, therefore, will not be analyzed further in this Environmental Assessment.

## 2.2.3 Other Alternatives Considered but Not Carried Forward

An alternative way of accomplishing compensation for the Crow Tribe would be for the federal government to provide funds to the Tribe which is equivalent to the value of the 11,755.72 acres which had previously been disposed by the State of Montana. However, this alternative would require either amending the CBSA or new legislation that would have Congress appropriate the necessary funds. This alternative was discussed as an option during various meetings and discussions early in the process. The Crow Tribe did not support opening the CBSA to amendment or new legislation to provide funds for purchasing private lands. The Tribe specifically wanted a return of the State lands, which were Tribal trust lands prior to the passage of the 1920 Crow Allotment Act and the acquisition of other private land within the Reservation. Without tribal support for new federal legislation, this option is not feasible and will not be discussed further.

Figure 2-1 Private Lands In the CBSA Phase IV Exchange

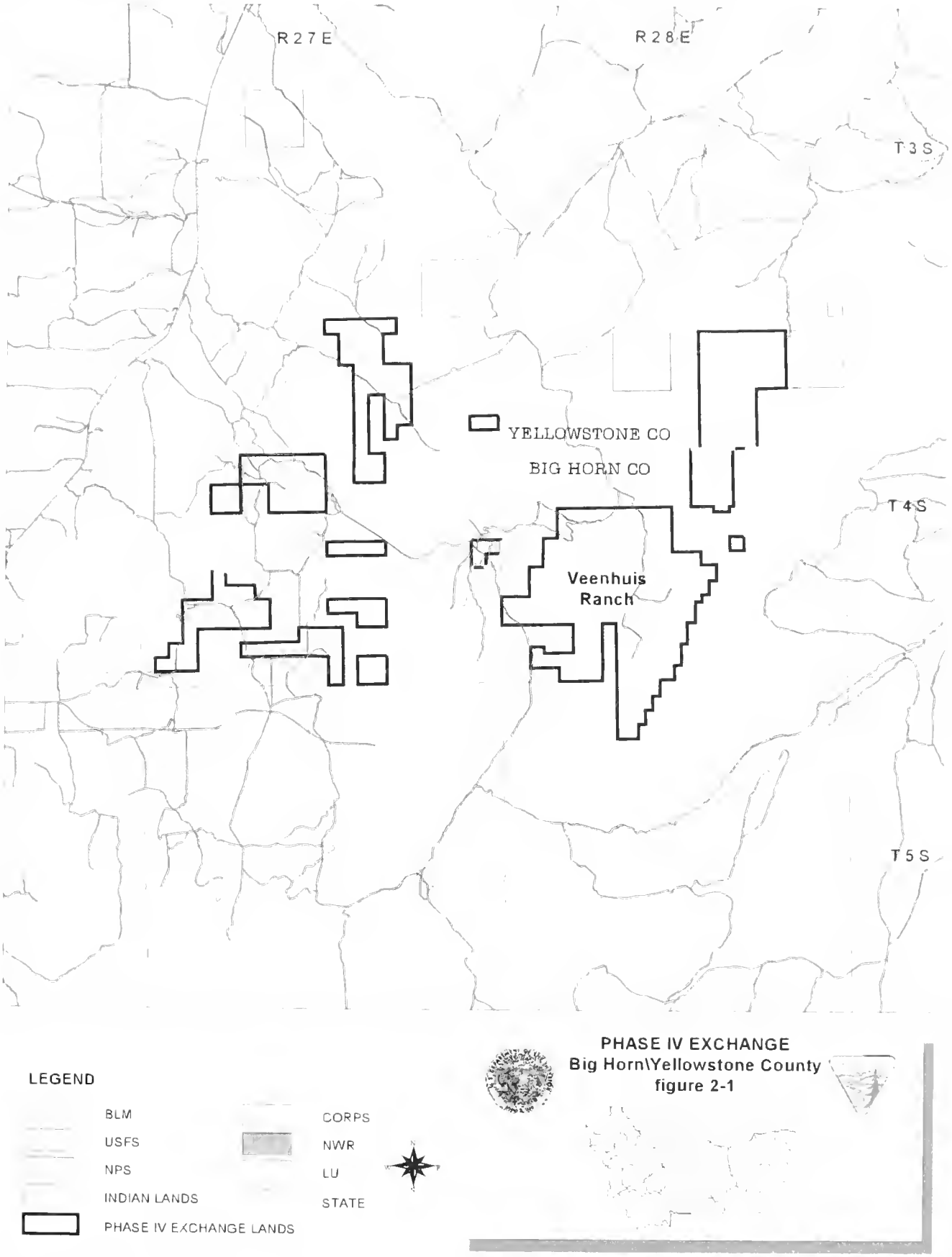


Figure 2-2 BLM Lands in the CBSA Phase IV Exchange

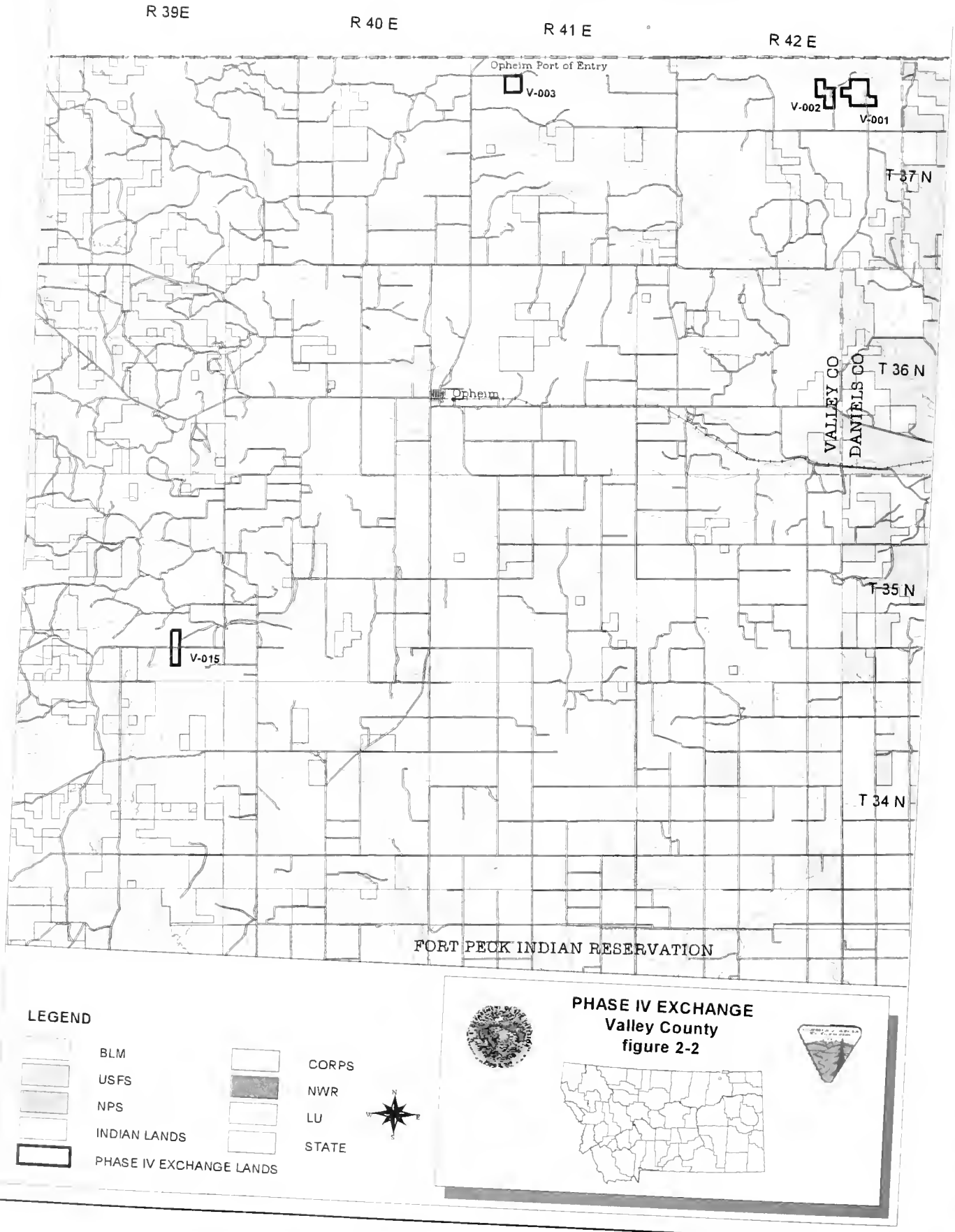


Figure 2-3 BLM Lands in the CBSA Phase IV Exchange

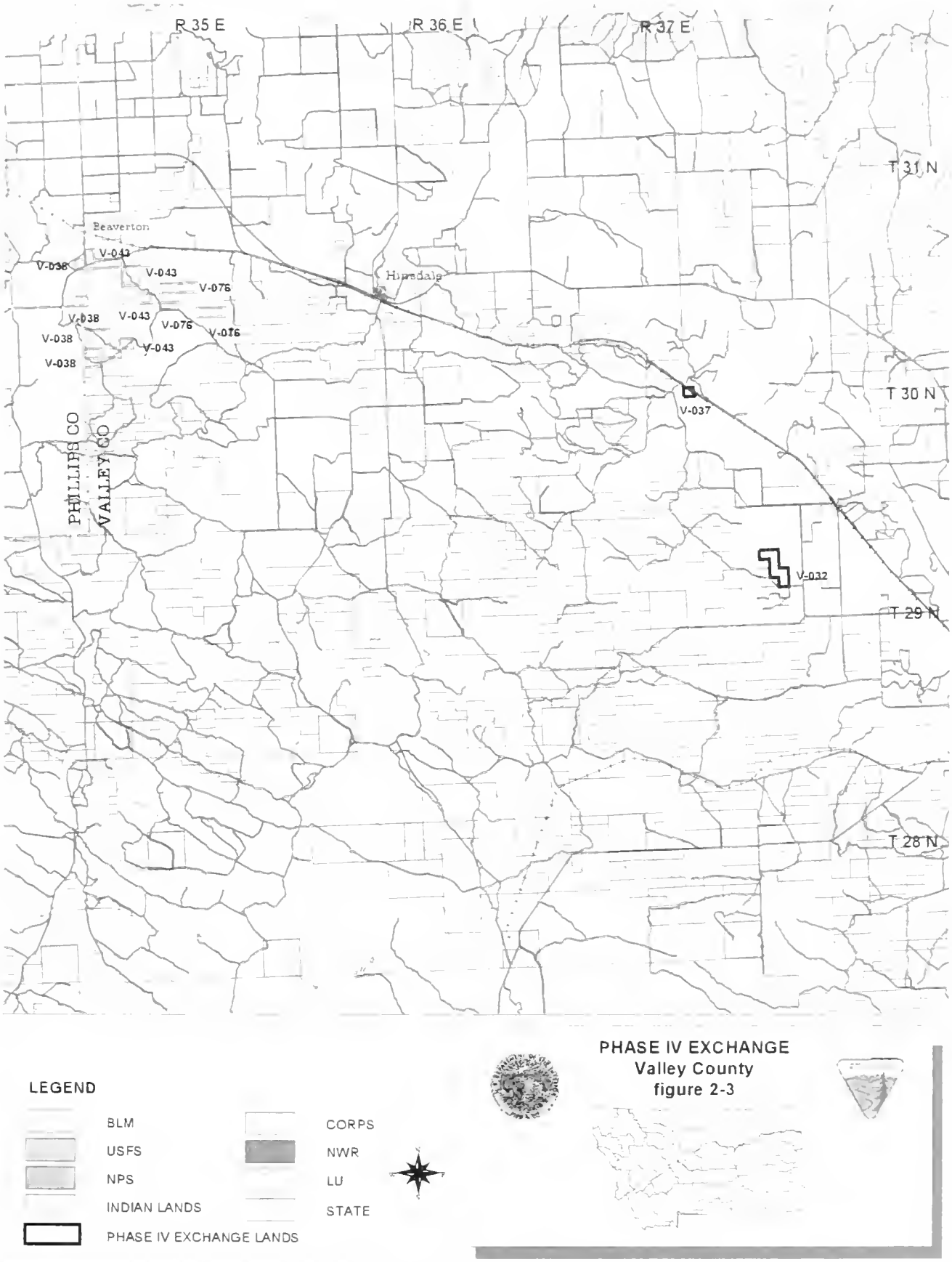


Figure 2-4 BLM Lands in the CBSA Phase IV Exchange

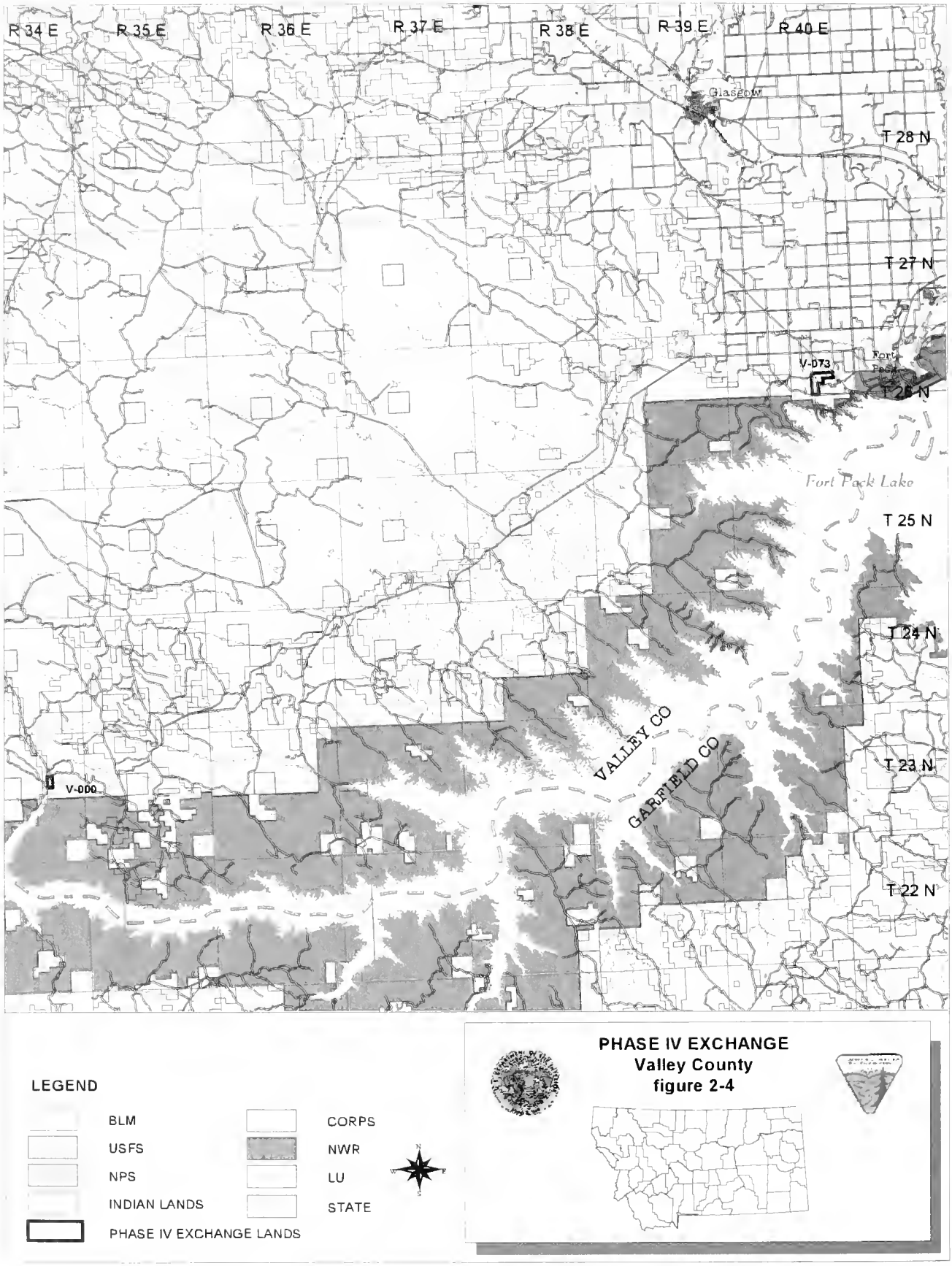


Figure 2-5 BLM Lands in the CBSA Phase IV Exchange

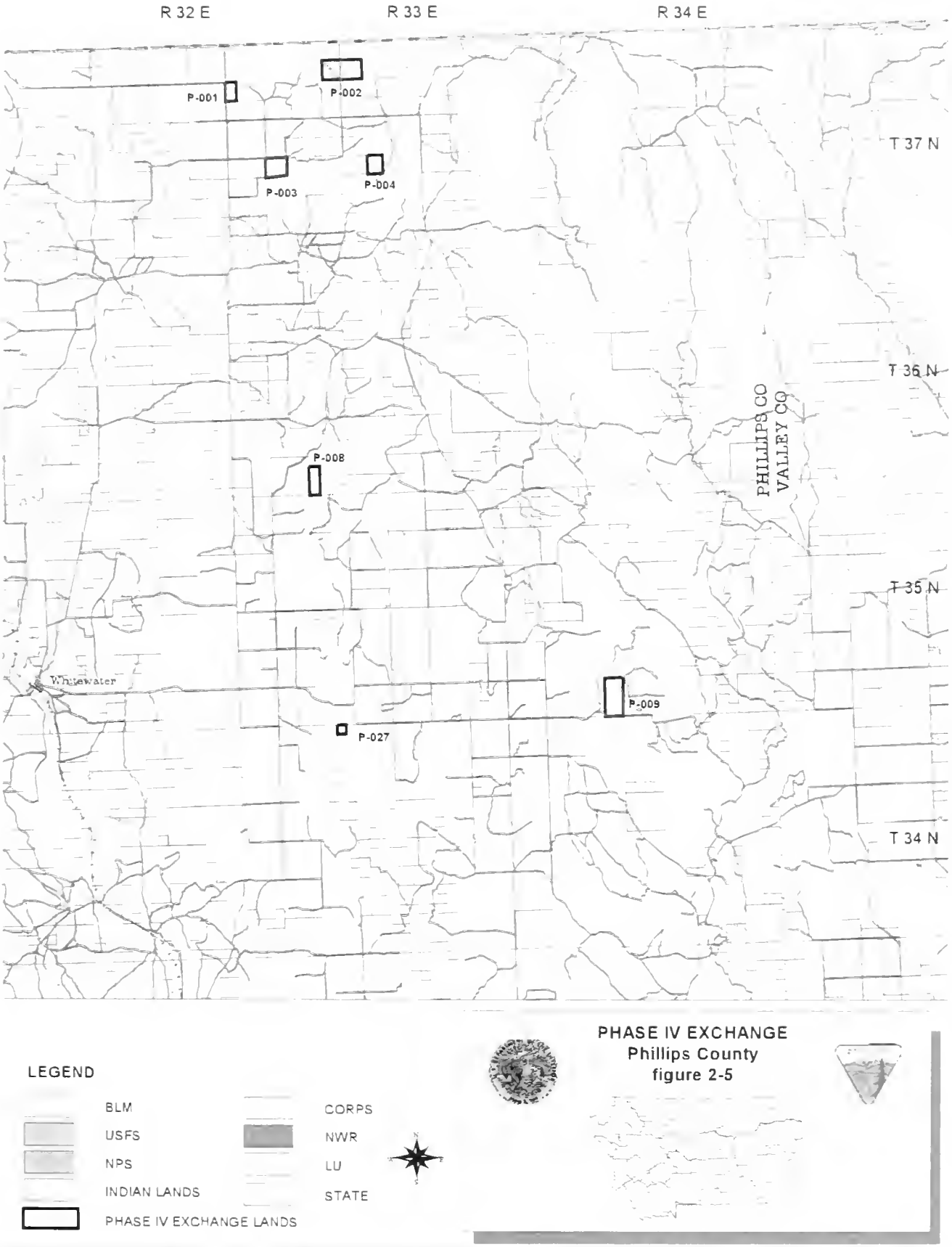


Figure 2-6 BLM Lands in the CBSA Phase IV Exchange

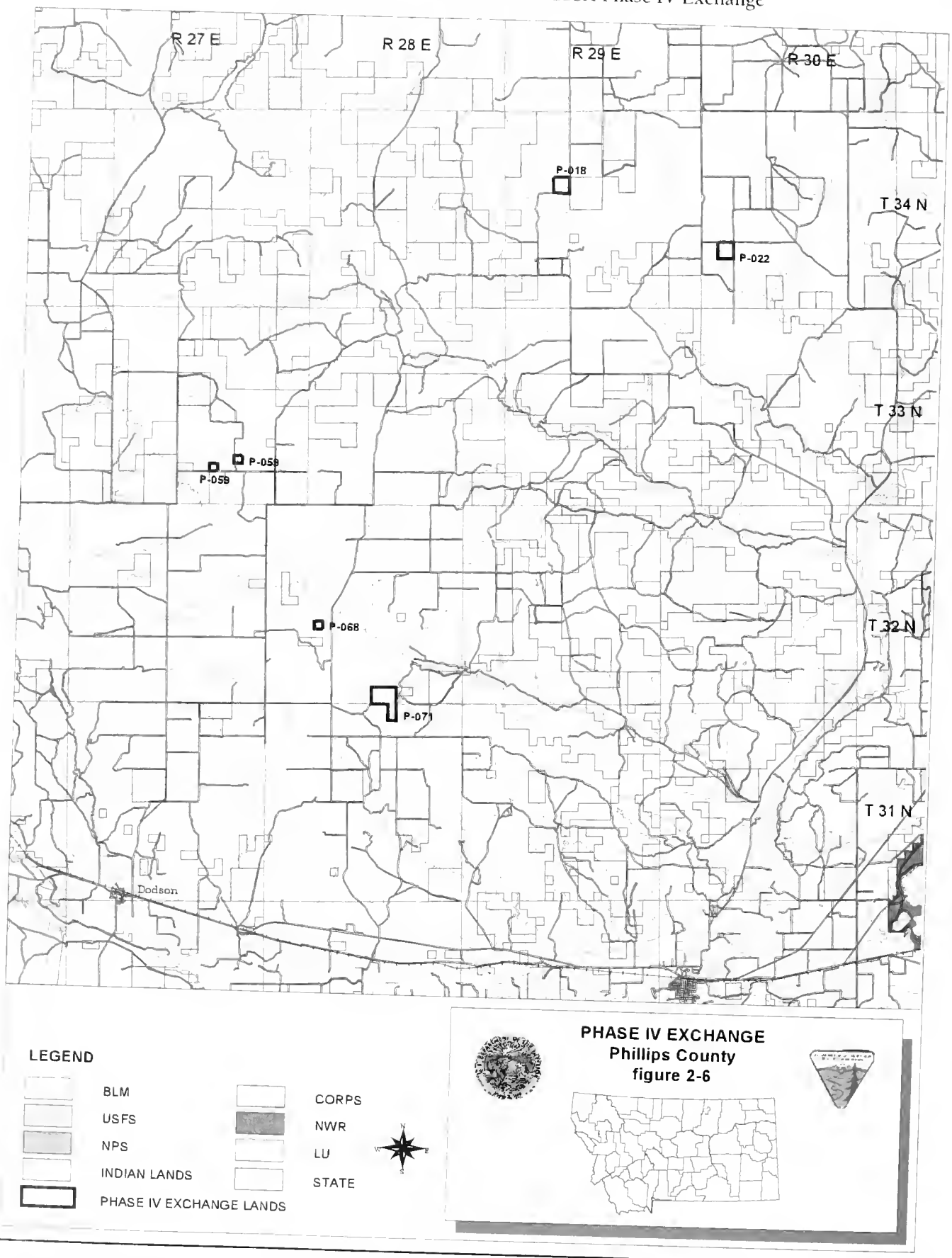


Figure 2-7 BLM Lands in the CBSA Phase IV Exchange

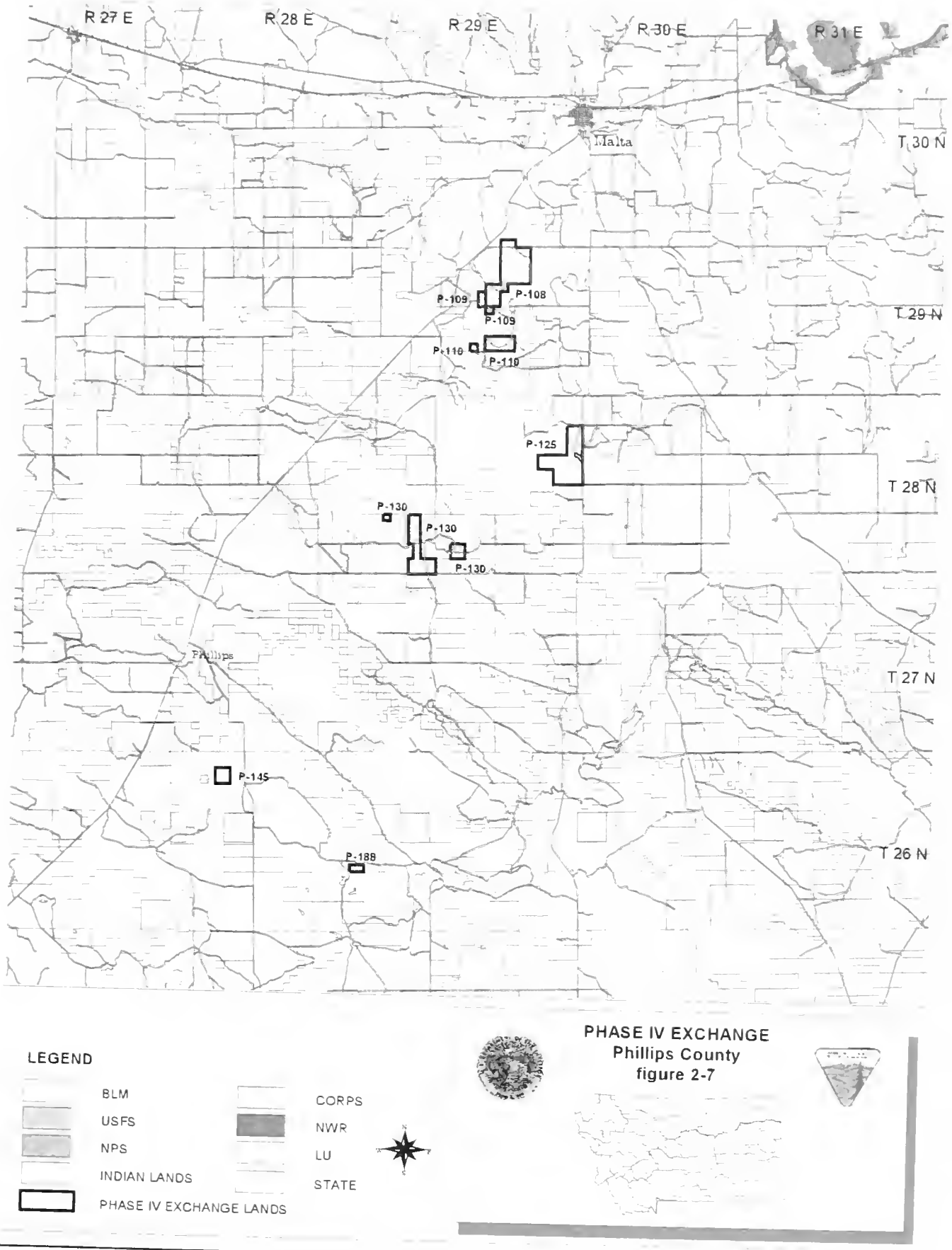


Figure 2-8 BLM Lands in the CBSA Phase IV Exchange

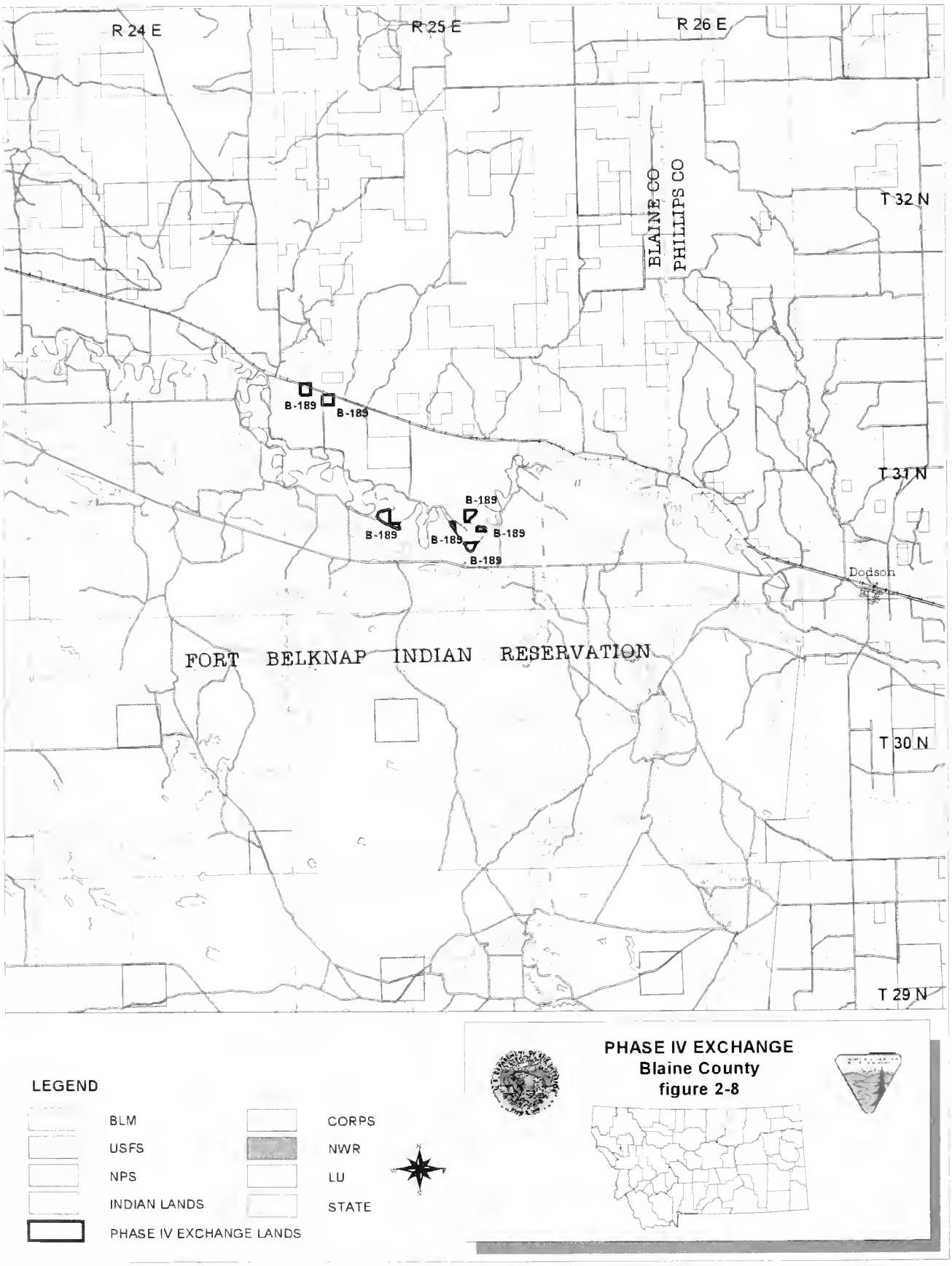


Figure 2-9 BLM Lands in the CBSA Phase IV Exchange

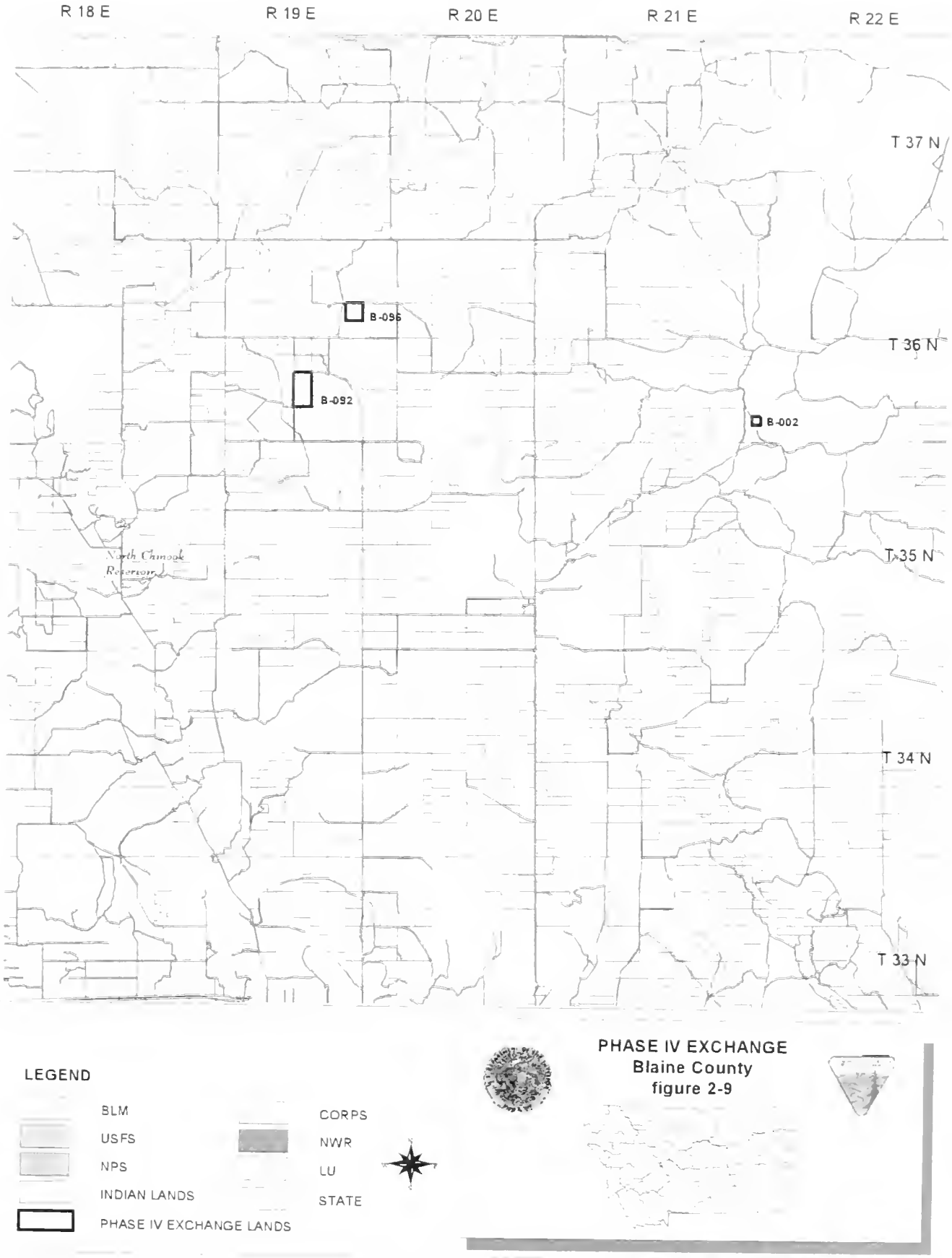


Figure 2-10 BLM Lands in the CBSA Phase IV Exchange

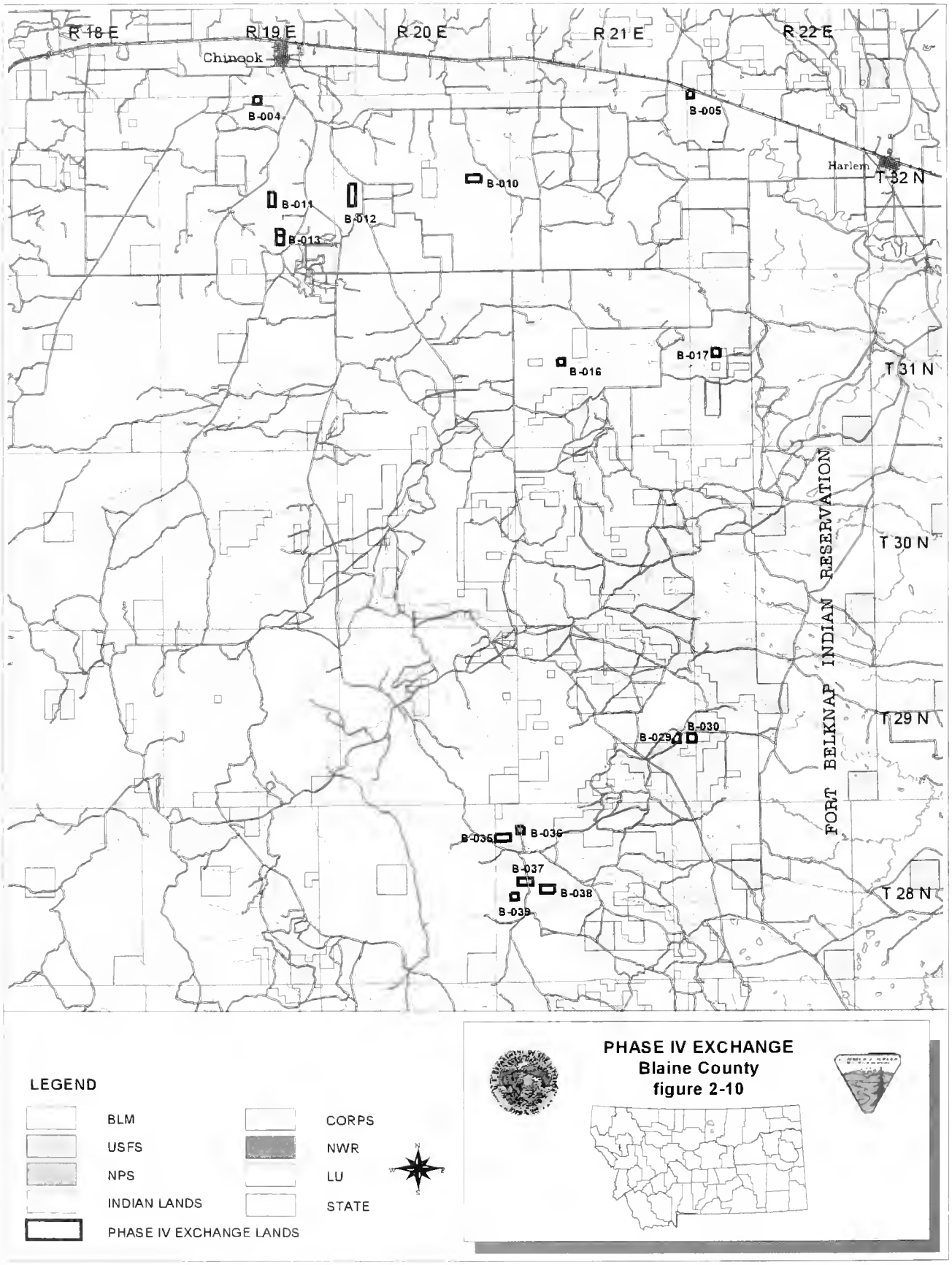


Figure 2-11 BLM Lands in the CBSA Phase IV Exchange

Figure 2-12 BLM Lands in the CBSA Phase IV Exchange

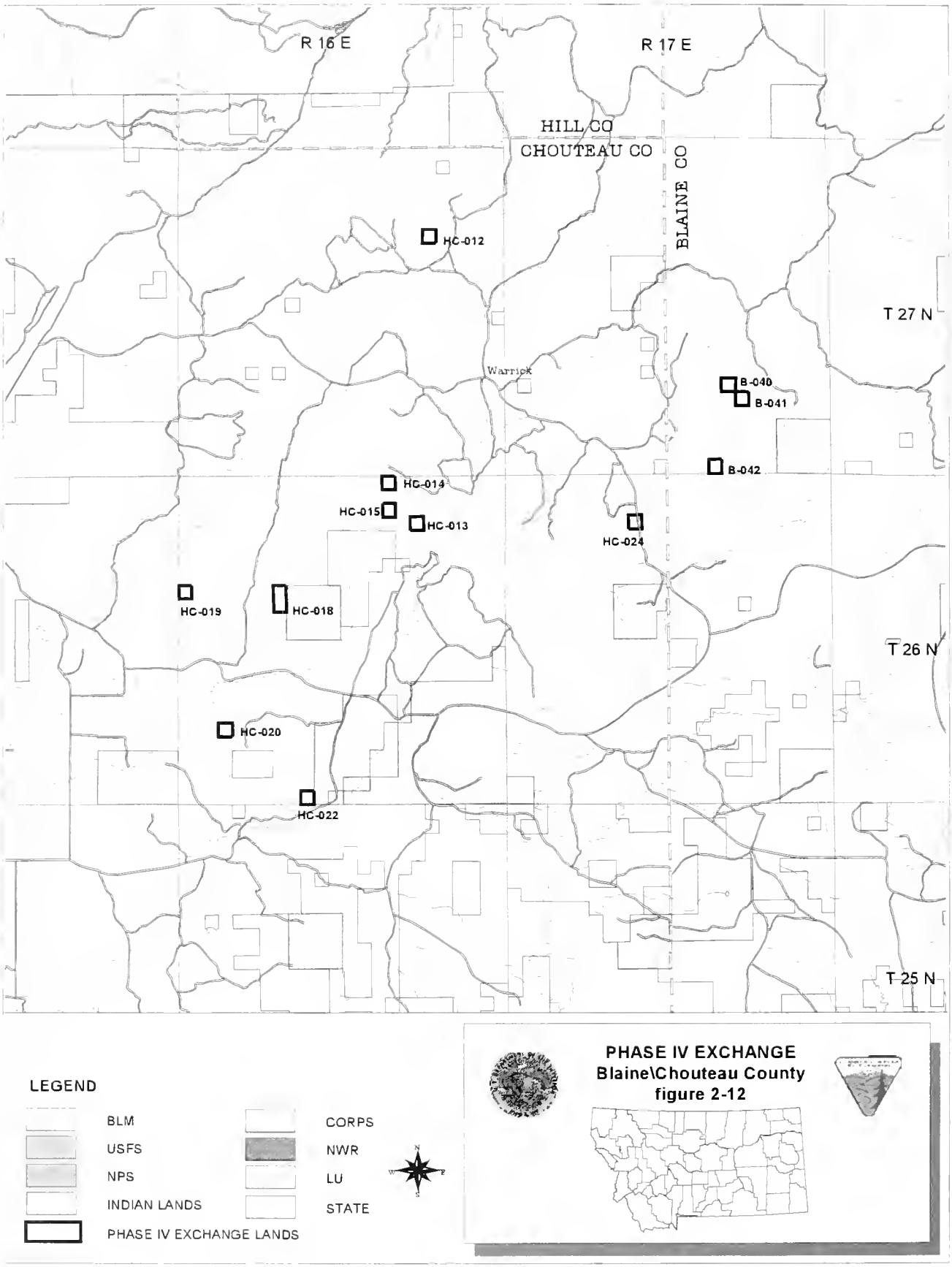


Figure 2-13 BLM Lands in the CBSA Phase IV Exchange

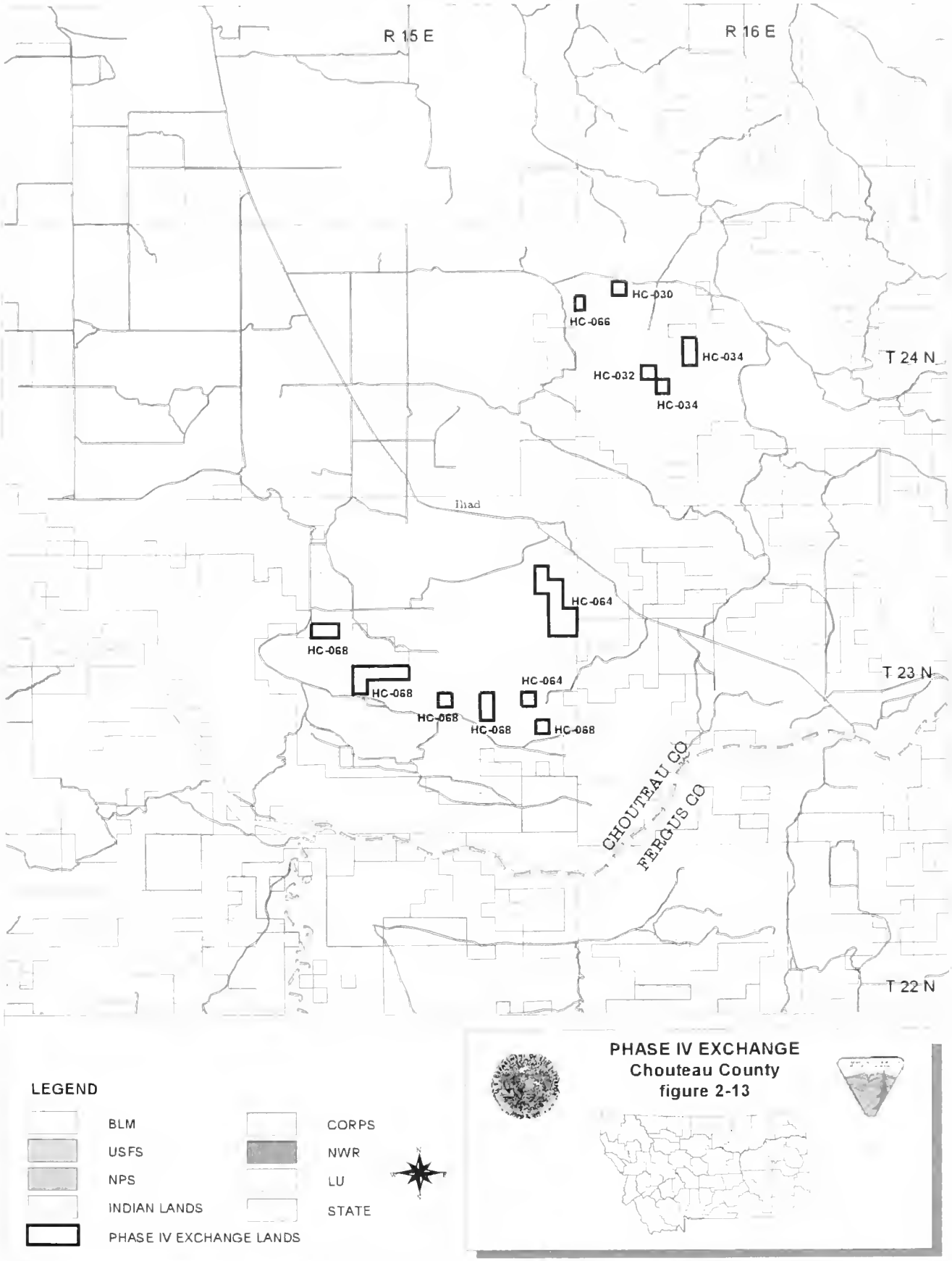


Figure 2-14 BLM Lands in the CBSA Phase IV Exchange

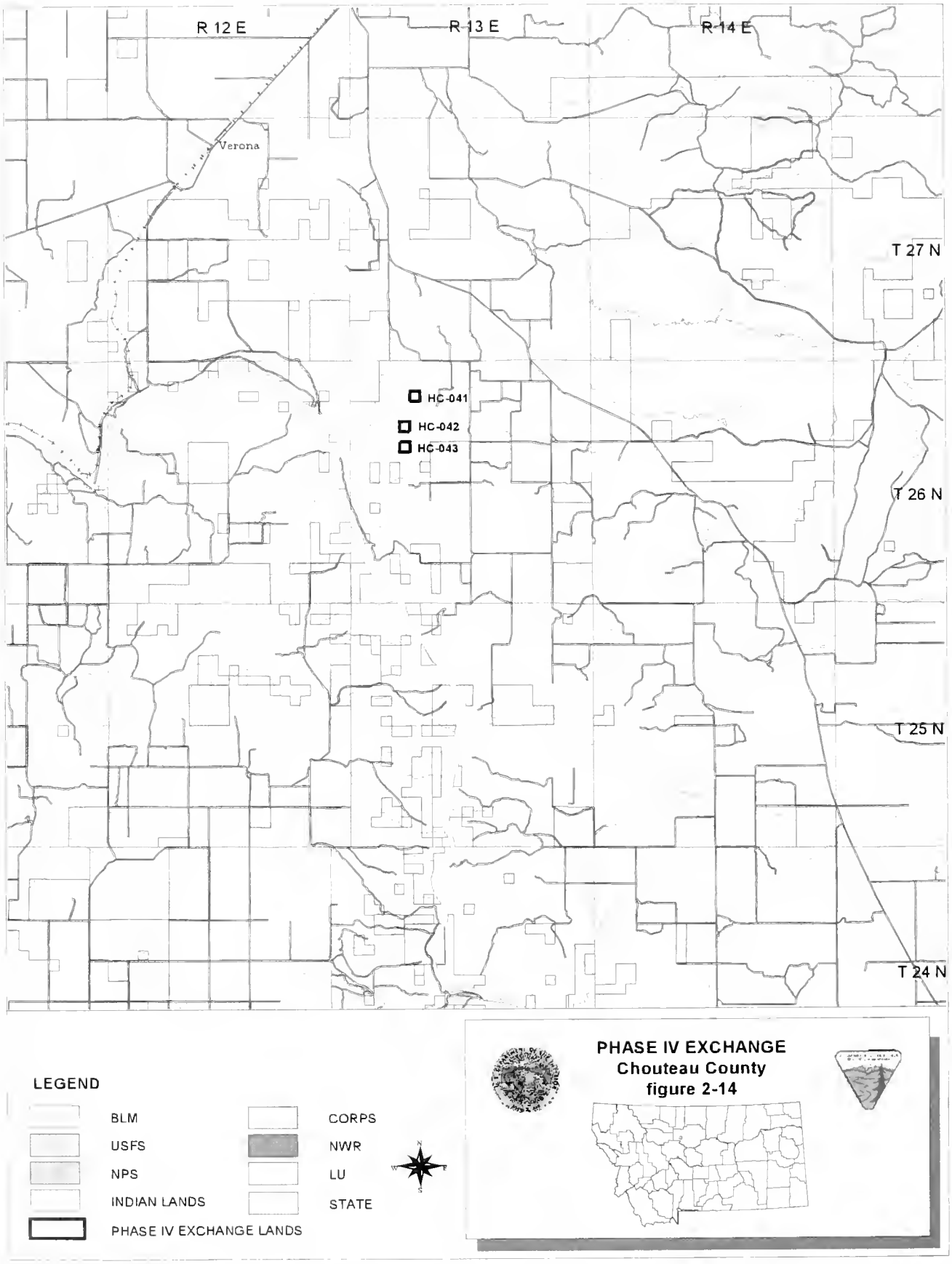


Figure 2-15 BLM Lands in the CBSA Phase IV Exchange

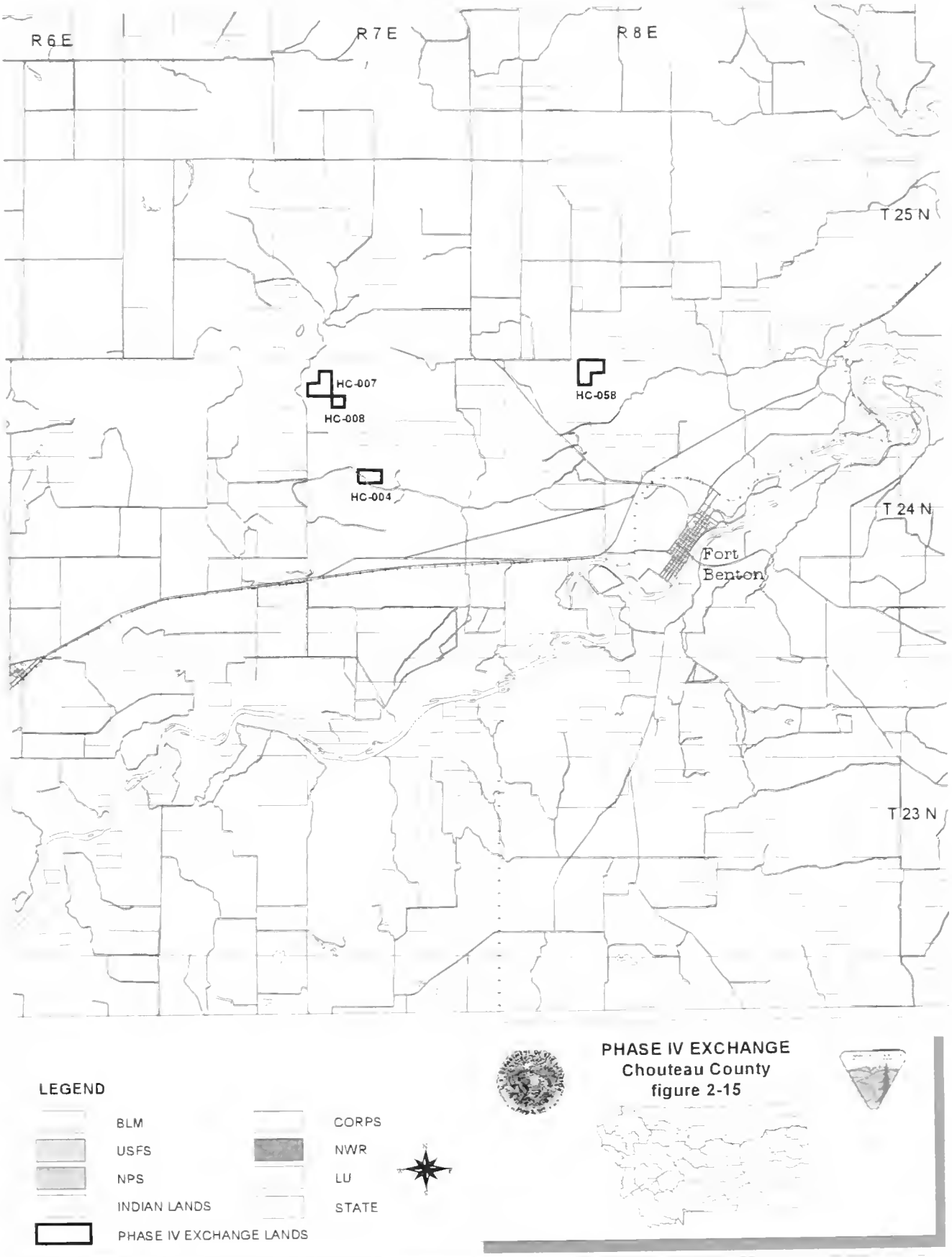


Figure 2-16 BLM Lands in the CBSA Phase IV Exchange

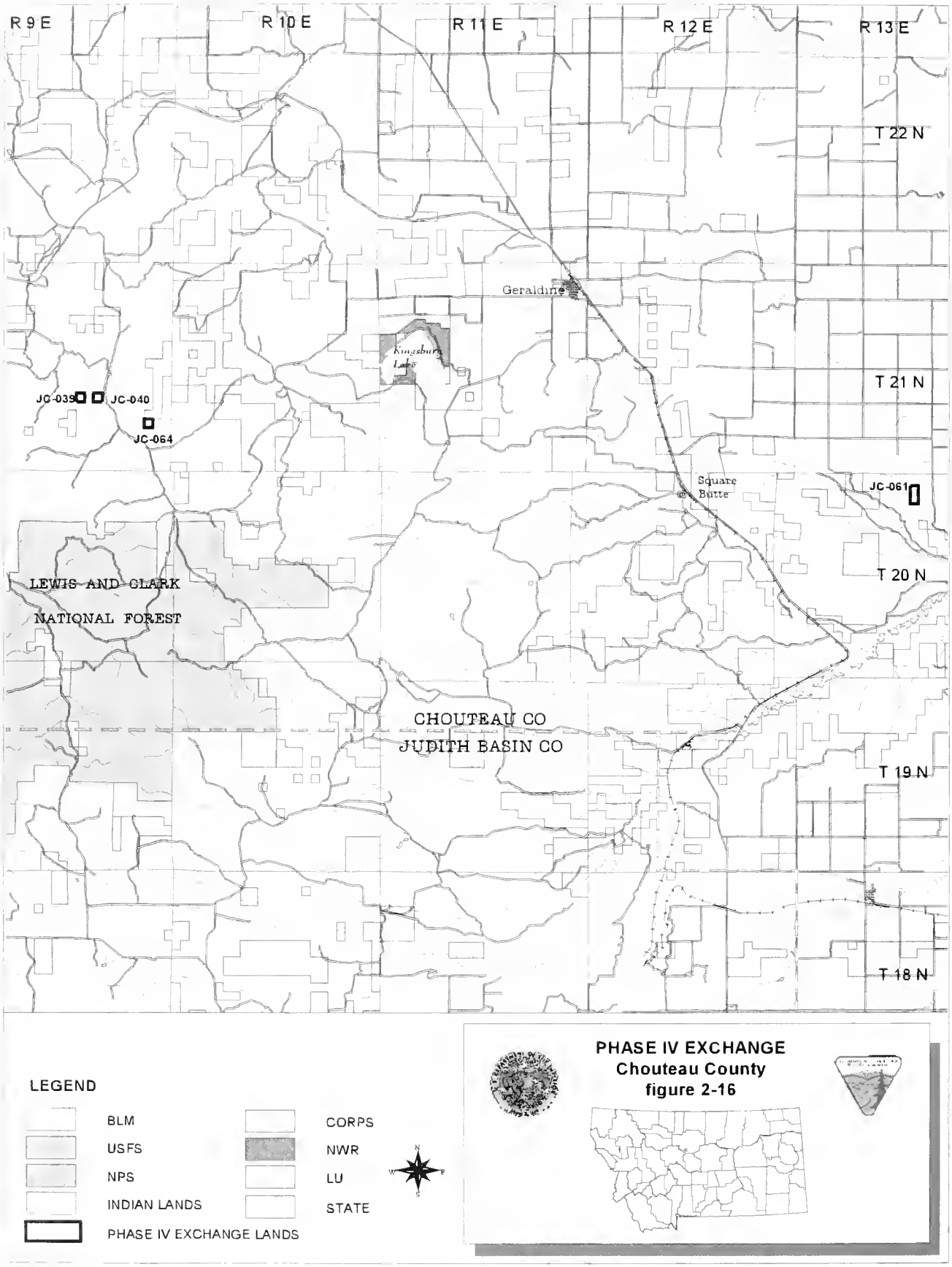


Figure 2-17 BLM Lands in the CBSA Phase IV Exchange

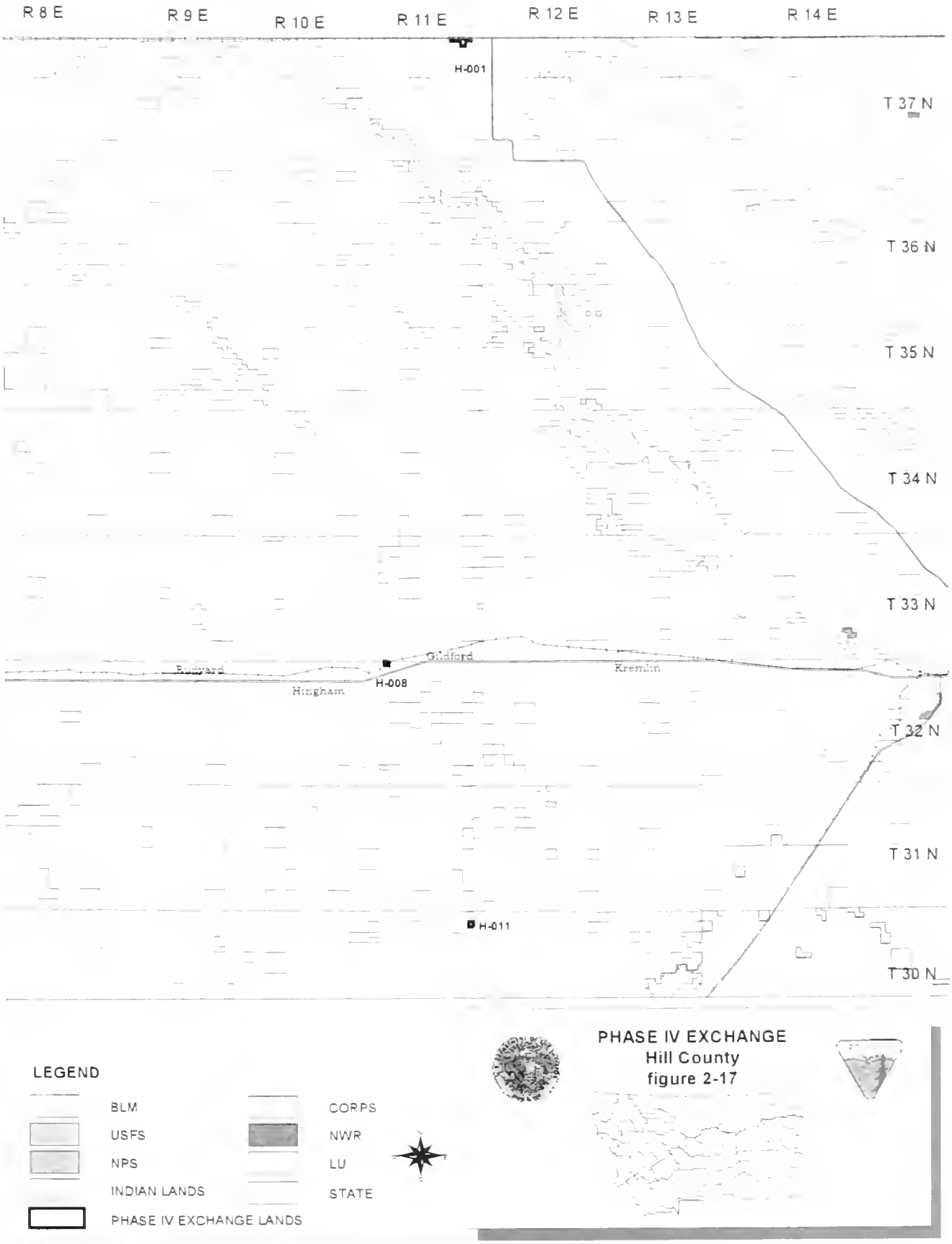


Figure 2-18 BLM Lands in the CBSA Phase IV Exchange

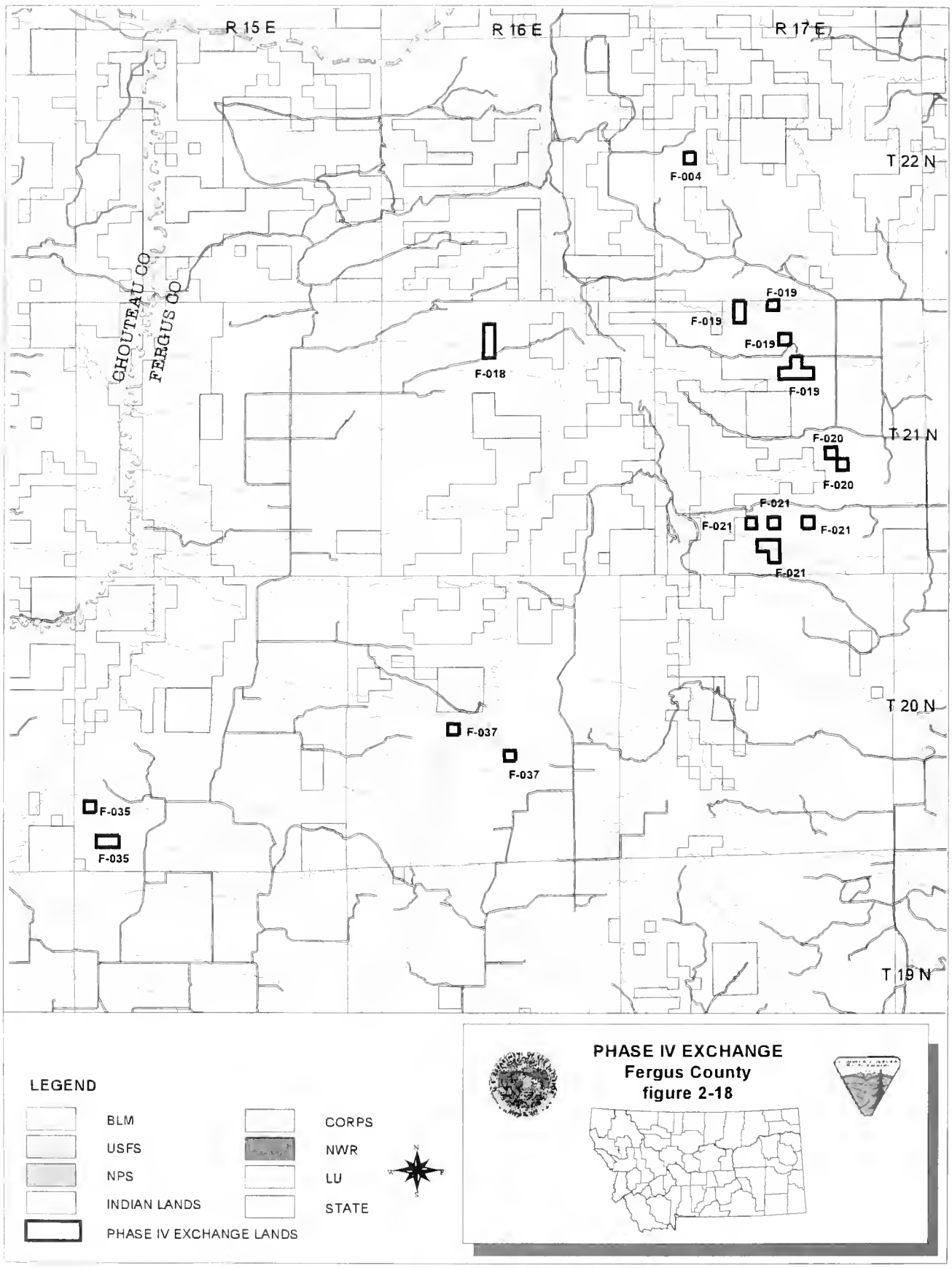
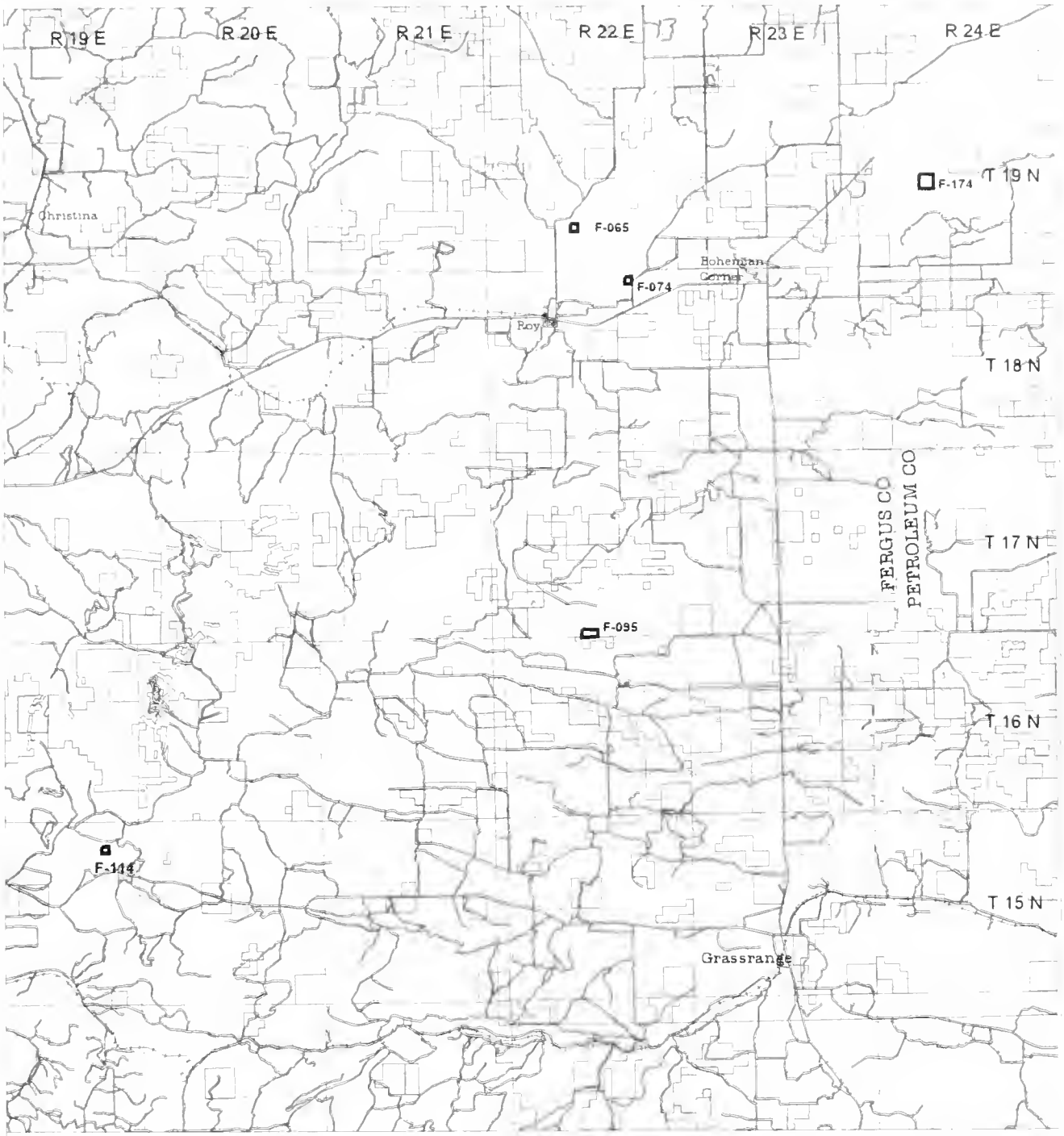


Figure 2-19 BLM Lands in the CBSA Phase IV Exchange




LEGEND

- BLM
- USFS
- NPS
- INDIAN LANDS
- PHASE IV EXCHANGE LANDS
- CORPS
- NWR
- LU
- STATE

PHASE IV EXCHANGE
Fergus County
figure 2-19

Figure 2-20 BLM Lands in the CBSA Phase IV Exchange

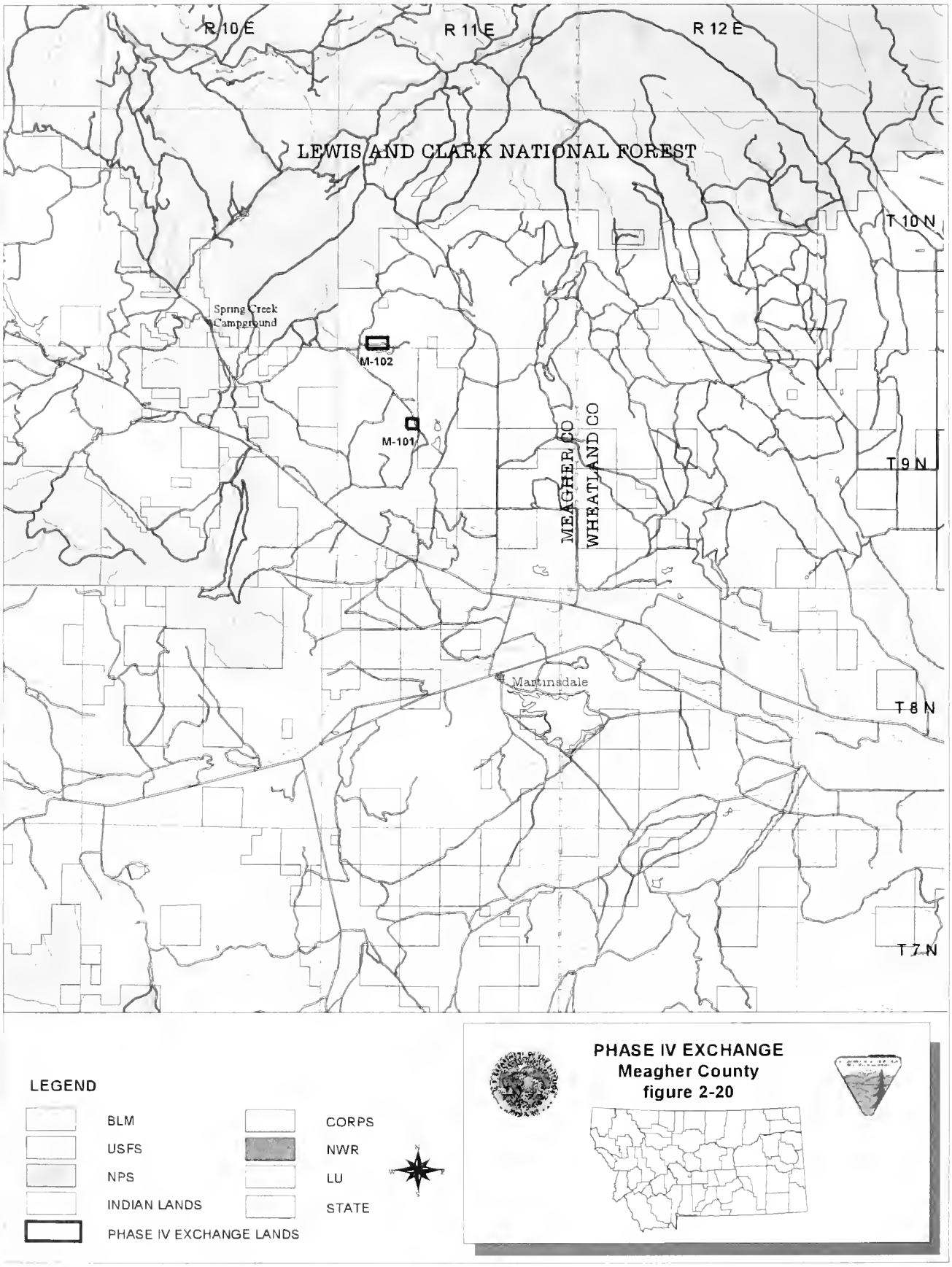


Figure 2-21 BLM Lands in the CBSA Phase IV Exchange

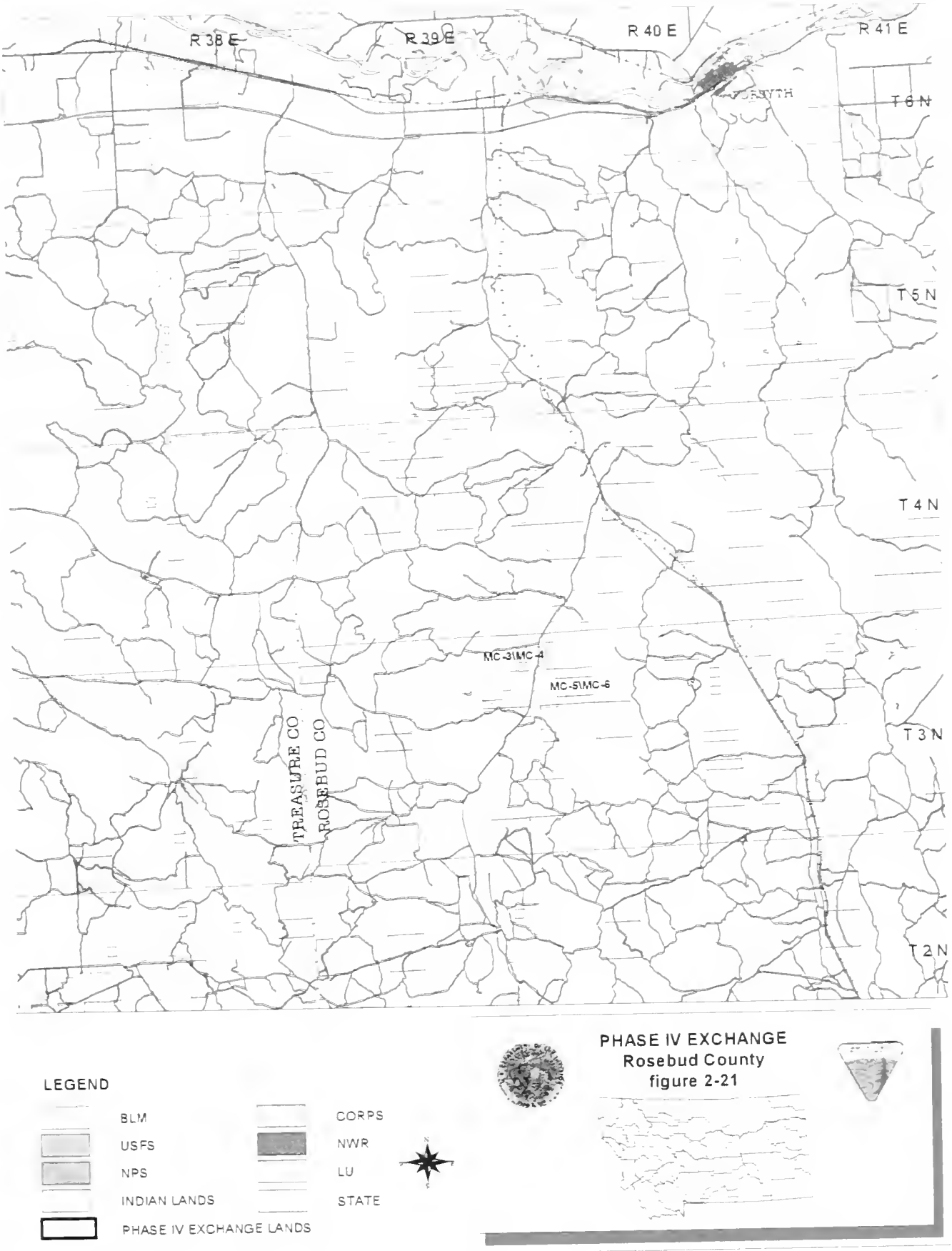


Figure 2-22 BLM Lands in the CBSA Phase IV Exchange

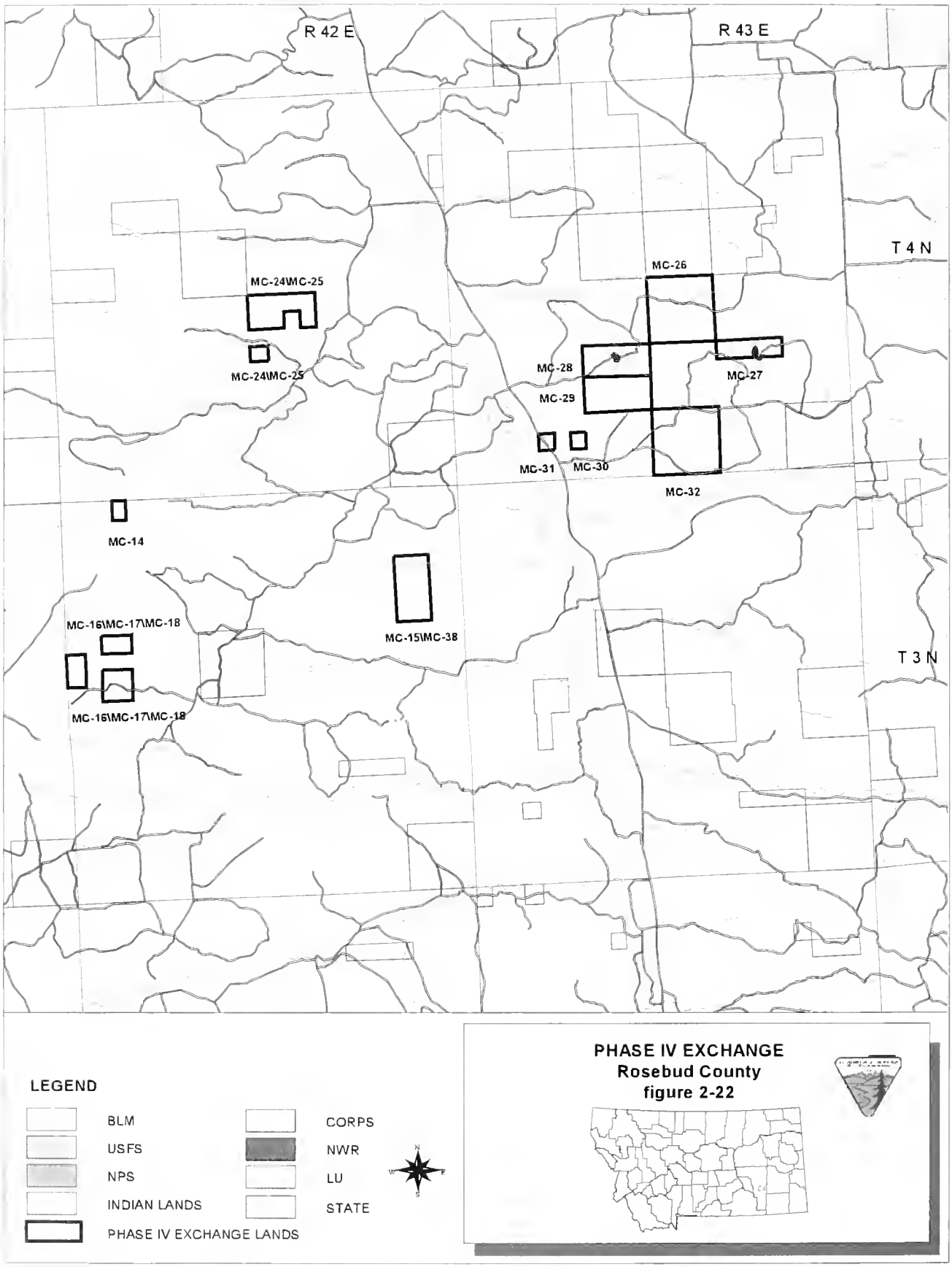


Figure 2-23 BLM Lands in the CBSA Phase IV Exchange

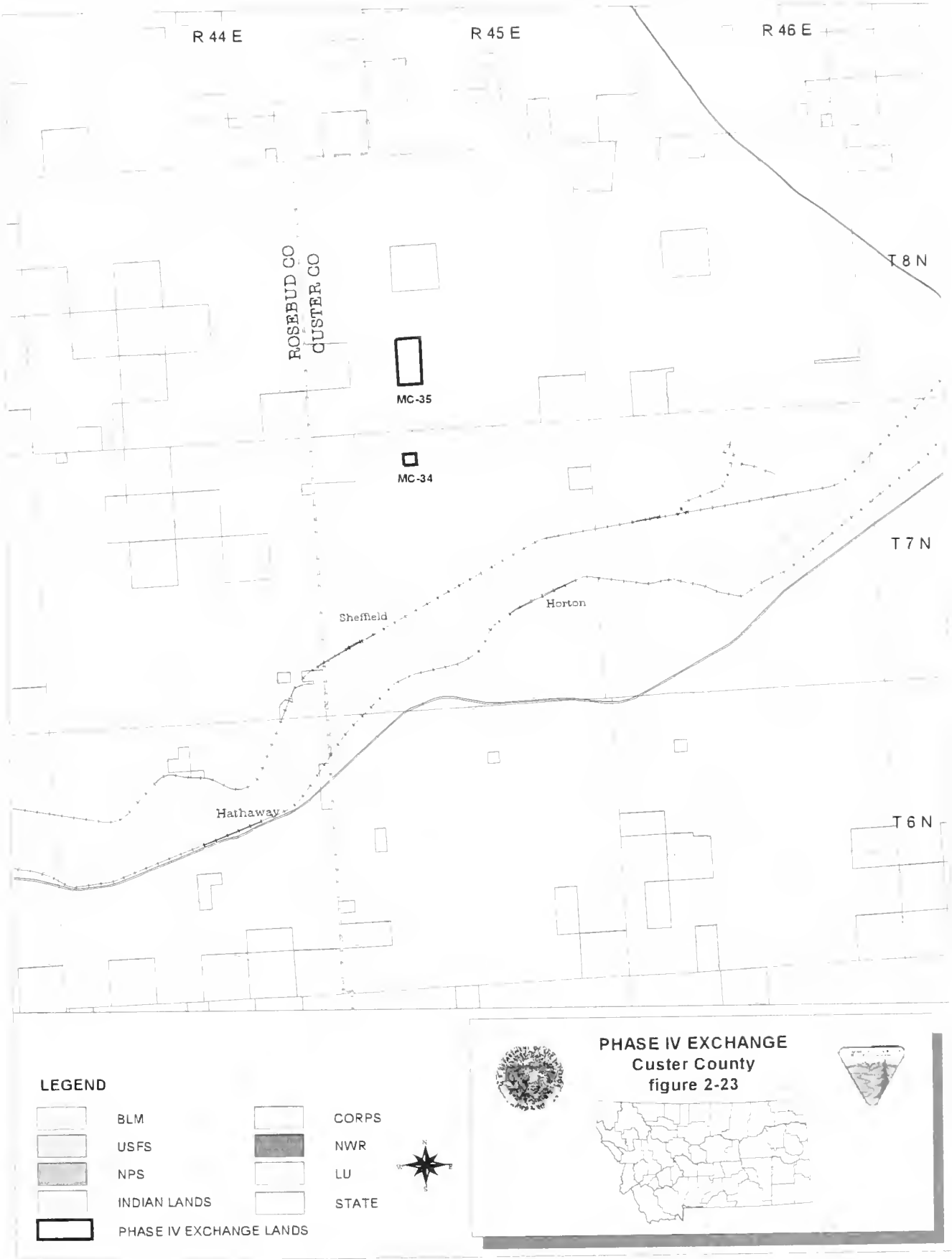
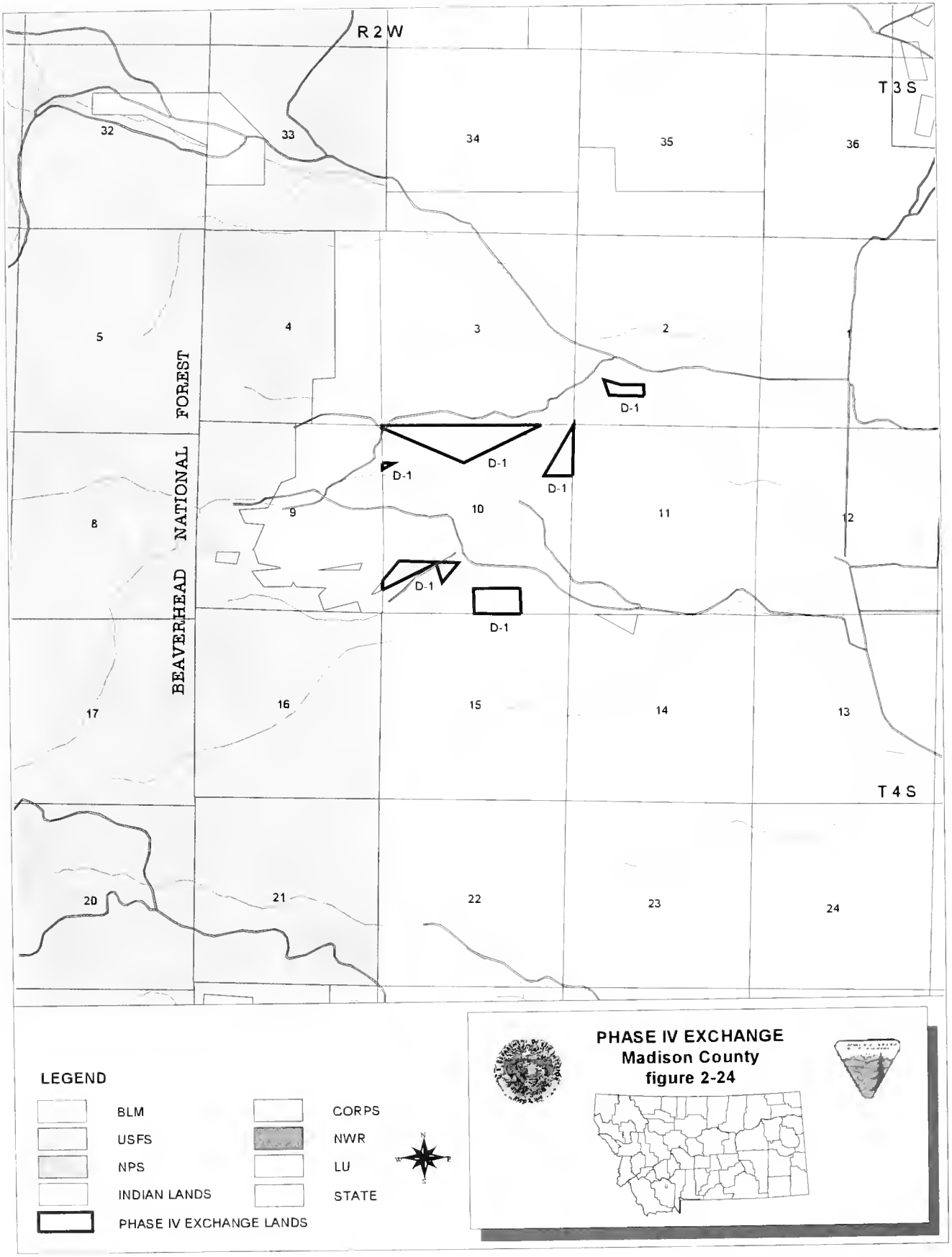


Figure 2-24 BLM Lands in the CBSA Phase IV Exchange



# 3.0 AFFECTED ENVIRONMENT

This chapter describes the portions of the physical, biological, social and economic environments that would be affected by the implementation of the alternatives for the proposed exchange. This chapter presents the existing conditions as a baseline for the analysis of potential impacts that are examined in Chapter 4. Chapter 3 also includes a description of conditions for those BLM tracts in Appendix A which had not previously been specifically identified for disposal in the Powder River Resource Area, West HiLine, and Judith-Valley-Phillips Resource Management Plans.

## *3.1 BLM Lands*

### 3.1.1 General Geography, Topography and Aesthetics

The BLM lands in the Phase IV exchange fall within a variety of diverse landscapes. Table 3-1 summarizes some of these diverse characteristics of the BLM tracts and allows for a general comparison between the lands.

**Table 3-1 General Geography, Topography and Aesthetics of BLM Lands in Phase IV of the Crow Boundary Settlement Act Land Exchange Project**

| Parcel Number | County | Landscape Position[4] | Topography[5] | View[6] | Scenery[7] |
|---|---|---|---|---|---|
| JC-039 | Chouteau | Intermediate | Broken | Wide | Mixed |
| JC-040 | Chouteau | Intermediate | Dissected | Wide | Mixed |
| JC-064 | Chouteau | Upland | Dissected | Expansive | Mixed |
| JC-061 | Chouteau | Intermediate | Badland | Wide | Sage |
| F-004 | Fergus | Intermediate | Broken | Wide | Sage |
| F-018 | Fergus | Intermediate | Badlands | Wide | sage |
| F-019 | Fergus | Intermediate | Broken | Expansive | Mixed |
| F-020 | Fergus | Intermediate | Broken | Expansive | Mixed |
| F-021 | Fergus | Intermediate | Badland | Wide | Mixed |
| F-035 | Fergus | Upland | Broken | Wide | Sage |
| F-037 | Fergus | Upland | Broken | Expansive | Sage |
| F-065 | Fergus | Intermediate | Rolling | Wide | Sage |
| F-074 | Fergus | Upland | Flat | Wide | Prairie |
| F-095 | Fergus | Upland | Rolling | Expansive | Sage |

[4] Landscape position is described in broad terms relative to major drainages (Yellowstone, Musselshell, Powder rivers, e.g.) and intervening divides. This characteristic is divided into Lowland (floodplain or terraces near the primary drainage), Intermediate (lands between Lowland and Upland), and Upland.

[5] Topography is divided into categories of increasing drainage density and roughness of terrain using descriptive terms like Flat, Rolling, Broken, Dissected, and Badland

[6] If views are typically 10-20 miles, they are termed Expansive; 5-10 miles, Wide; 1-5 miles, Open; less than a mile, Narrow; and less than 200 yards, Closed.

[7] Scenery depicts the typical vegetation at this site. Sage denotes sagebrush and grass mixed, Prairie denotes mostly grassland, Mixed means mixed scattered trees, grass and/or sagebrush, and Timber denotes most views are of timber stands.

| Table 3-1 General Geography, Topography and Aesthetics of BLM Lands in Phase IV of the Crow Boundary Settlement Act Land Exchange Project | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Landscape Position[4] | Topography[5] | View[6] | Scenery[7] |
| F-114 | Fergus | Upland | Broken | Wide | Mixed |
| F-174 | Fergus | Intermediate | Rolling | Wide | Sage |
| M-101 | Meagher | Intermediate | Rolling | Wide | Sage |
| M-102 | Meagher | Intermediate | Rolling | Expansive | Mixed |
| P-001 | Phillips | Upland | Flat | Expansive | Prairie |
| P-002 | Phillips | Upland | Flat | Expansive | Prairie |
| P-003 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-004 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-008 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-009 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-018 | Phillips | Upland | Flat | Expansive | Prairie |
| P-022 | Phillips | Upland | Flat | Expansive | Prairie |
| P-027 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-059 | Phillips | Intermediate | Rolling | Wide | Prairie |
| P-068 | Phillips | Intermediate | Broken | Wide | Prairie |
| P-071 | Phillips | Intermediate | Rolling | Wide | Prairie |
| P-108 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-109 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-110 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-125 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-130 | Phillips | Upland | Rolling | Expansive | Prairie |
| P-145 | Phillips | Intermediate | Flat | Expansive | Prairie |
| P-188 | Phillips | Upland | Flat | Expansive | Prairie |
| V-000 | Valley | Lowland | Flat | Narrow | Mixed |
| V-001 | Valley | Upland | Rolling | Expansive | Mixed |
| V-002 | Valley | Upland | Rolling | Expansive | Prairie |
| V-003 | Valley | Upland | Flat | Expansive | Prairie |
| V-015 | Valley | Upland | Rolling | Expansive | Prairie |
| V-032 | Valley | Lowland | Rolling | Wide | Prairie |
| V-037 | Valley | Lowland | Flat | Expansive | Prairie |
| V-038 | Valley | Lowland/Intermed | Rolling to Broken | Wide | Prairie |
| V-043 | Valley | Lowland/Intermed | Flat to Broken | Wide | Prairie |
| V-073 | Valley | Intermediate | Rolling | Expansive | Prairie |
| V-076 | Valley | Intermediate | Broken | Expansive | Prairie |
| B-002 | Blaine | Upland | Flat | Wide | Prairie |
| B-004 | Blaine | Lowland | Rolling | Wide | Sage |
| B-005 | Blaine | Lowland | Flat | Expansive | Mixed |
| B-010 | Blaine | Intermediate | Broken | Wide | Prairie |
| B-011 | Blaine | Upland | Badland | Open | Mixed |
| B-012 | Blaine | Upland | Dissected | Open | Sage |
| B-013 | Blaine | Upland | Badland | Open | Mixed |
| B-016 | Blaine | Upland | Rolling | Wide | Prairie |
| B-017 | Blaine | Upland | Broken | Expansive | Prairie |
| B-029 | Blaine | Upland | Rolling | Wide | Mixed |
| B-030 | Blaine | Upland | Rolling | Expansive | Mixed |
| B-035 | Blaine | Upland | Rolling | Wide | Mixed |

| Table 3-1 General Geography, Topography and Aesthetics of BLM Lands in Phase IV of the Crow Boundary Settlement Act Land Exchange Project | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Landscape Position[4] | Topography[5] | View[6] | Scenery |
| B-036 | Blaine | Upland | Flat | Wide | Mixed |
| B-037 | Blaine | Upland | Rolling | Wide | Prairie |
| B-038 | Blaine | Upland | Flat | Wide | Prairie |
| B-039 | Blaine | Upland | Broken | Wide | Prairie |
| B-040 | Blaine | Upland | Broken | Wide | Prairie |
| B-041 | Blaine | Upland | Broken | Wide | Prairie |
| B-042 | Blaine | Upland | Broken | Wide | Prairie |
| B-065 | Blaine | Upland | Rolling | Wide | Mixed |
| B-092 | Blaine | Upland | Flat | Expansive | Prairie |
| B-096 | Blaine | Upland | Rolling | Expansive | Prairie |
| B-143 | Blaine | Upland | Broken | Expansive | Mixed |
| B-157 | Blaine | Upland | Broken | Expansive | Sage |
| B-189 | Blaine | Lowland | Flat | Narrow | Mixed |
| HC-004 | Chouteau | Intermediate | Dissected | Wide | Prairie |
| HC-007 | Chouteau | Intermediate | Badland | Wide | Mixed |
| HC-008 | Chouteau | Intermediate | Badland | Wide | Mixed |
| HC-012 | Chouteau | Upland | Broken | Wide | Prairie |
| HC-013 | Chouteau | Upland | Rolling | Wide | Sage |
| HC-014 | Chouteau | Upland | Broken | Expansive | Prairie |
| HC-015 | Chouteau | Upland | Broken | Expansive | Prairie |
| HC-018 | Chouteau | Intermediate | Rolling | Open | Prairie |
| HC-019 | Chouteau | Intermediate | Rolling | Wide | Prairie |
| HC-020 | Chouteau | Upland | Dissected | Wide | Sage |
| HC-022 | Chouteau | Upland | Dissected | Wide | Sage |
| HC-024 | Chouteau | Upland | Broken | Wide | Prairie |
| HC-030 | Chouteau | Upland | Rolling | Wide | Mixed |
| HC-032 | Chouteau | Upland | Broken | Wide | Prairie |
| HC-034 | Chouteau | Upland | Broken | Wide | Prairie |
| HC-041 | Chouteau | Intermediate | Broken | Expansive | Prairie |
| HC-042 | Chouteau | Intermediate | Broken | Wide | Prairie |
| HC-043 | Chouteau | Intermediate | Broken | Wide | Prairie |
| HC-058 | Chouteau | Intermediate | Badland | Wide | Mixed |
| HC-064 | Chouteau | Upland | Flat | Expansive | Mixed |
| HC-066 | Chouteau | Upland | Rolling | Expansive | Prairie |
| HC-068 | Chouteau | Intermediate | Broken | Wide | Mixed |
| H-001 | Hill | Upland | Rolling | Expansive | Prairie |
| H-008 | Hill | Upland | Flat | Expansive | Prairie |
| H-011 | Hill | Upland | Rolling | Wide | Prairie |
| MC-1 | Rosebud | Upland | Dissected | Wide | Mixed |
| MC-2 & MC-36 | Rosebud | Upland | Rolling to Badland | Wide | Mixed |
| MC-3 & MC-4 | Rosebud | Upland | Broken | Open | Mixed |
| MC-5 & MC-6 | Rosebud | Upland | Badland | Wide | Mixed |
| MC-7 | Rosebud | Upland | Broken | Wide | Mixed |
| MC-8 | Rosebud | Upland | Dissected | Wide | Mixed |
| MC-9 | Rosebud | Upland | Rolling to Badland | Wide | Mixed |
| MC-10 | Rosebud | Upland | Dissected | Wide | Mixed |

| Table 3-1 General Geography, Topography and Aesthetics of BLM Lands in Phase IV of the Crow Boundary Settlement Act Land Exchange Project | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Landscape Position[4] | Topography[5] | View[6] | Scenery[7] |
| MC-11 | Rosebud | Upland | Dissected | Open | Mixed |
| MC-12 | Rosebud | Intermediate | Broken to Badland | Wide | Sage |
| MC-13 | Rosebud | Upland | Dissected | Wide | Mixed |
| MC-14 | Rosebud | Upland | Dissected | Open | Mixed |
| MC-15 & MC-38 | Rosebud | Upland | Badland | Wide | Mixed |
| MC-16, MC-17 & MC-18 | Rosebud | Upland | Dissected to Badland | Wide | Mixed |
| MC-19 | Rosebud | Upland | Broken | Wide | Mixed |
| MC-20 | Rosebud | Upland | Broken | Wide | Mixed |
| MC-21 | Rosebud | Upland | Badland | Wide | Mixed |
| MC-22 | Rosebud | Upland | Rolling | Wide | Sage |
| MC-23 | Rosebud | Upland | Badland | Open | Mixed |
| MC-24 & MC-25 | Rosebud | Upland | Broken | Wide | Mixed |
| MC-26 | Rosebud | Upland | Broken to Badland | Expansive | Mixed |
| MC-27 | Rosebud | Upland | Badland | Wide | Mixed |
| MC-28 | Rosebud | Upland | Badland | Wide | Sage |
| MC-29 | Rosebud | Upland | Badland | Wide | Sage |
| MC-30 | Rosebud | Upland | Badland | Open | Sage |
| MC-31 | Rosebud | Upland | Rolling to Broken | Wide | Sage |
| MC-32 | Rosebud | Upland | Rolling to Badland | Expansive | Sage |
| MC-33 & MC-39 | Rosebud | Intermediate | Broken | Expansive | Sage |
| MC-34 | Custer | Intermediate | Rolling | Wide | Sage |
| MC-35 | Custer | Upland | Rolling to Badland | Expansive | Sage |
| D-1 | Madison | Intermediate | Rolling | Wide | Sage |

## 3.1.2 Climate

The climate on the BLM lands is semiarid and continental, with cold winters and warm to hot summers. Climatic information on the parcels can be inferred from climatic data collected in nearby communities. Table 3-2 provides climatic summary information for these areas.

The data suggests that temperatures are slightly cooler and precipitation is slightly less the farther east and north the data are collected. Generally the higher the elevation, the cooler and wetter the climate will be. However, for purposes of this Environmental Assessment, the BLM lands may be considered to have essentially the same climatic characteristics as the nearest communities depicted in Table 3-2.

Most of the summer precipitation occurs in showers or thunderstorms, with occasional steady rains during late spring or early summer. June is the month of highest precipitation at all selected stations and February is the month of lowest precipitation. Precipitation generally falls as snow during late fall, winter, and early spring, although rain can occur in any month. Late spring, summer, and early fall precipitation is almost always rain, but hail is observed frequently during summer thunderstorms. Although precipitation is not plentiful, it mainly occurs during the growing season and is conducive to the growth of herbaceous rangeland species and some deciduous and evergreen trees on the BLM lands.

| Table 3-2 Selected Climatic Data Summary for the BLM Lands | | | | | |
|---|---|---|---|---|---|
| Characteristic | Winifred | Chinook | Forsyth | Glasgow | Malta |
| January Avg. Temp. (Max./Min. in °F) | 28.8/5.5 | 24.8/1.4 | 32.3/7.6 | 21.2/-3.0 | 22.1/-0.7 |
| July Avg. Temp. (Max./Min. in °F) | 84.0/51.3 | 85.4/52.8 | 88.2/56.2 | 87.4/55.6 | 86.2/55.5 |
| Avg. Total Precipitation (in.) | 15.01 | 12.52 | 14.26 | 12.60 | 12.56 |

## 3.1.3 Groundwater, Geology and Mineral Potential

The BLM lands are underlain by one or more of four general aquifer types, or by formations not generally considered aquifers. The four general types of aquifers are surficial deposits, and aquifers in Cenezoic, Mesozoic, and Paleozoic rocks.[8] Surficial deposits include alluvium, fluvial-glacial gravels, terrace gravels, and Flaxville Formation gravels or equivalents (Tertiary sand and gravel). Table 3-3 summarizes the geology and mineral potential of the BLM lands.

The Fort Union Formation is the only significant Cenezoic aquifer involved in the CBSA exchange lands. The Fort Union Formation is mapped as the Tongue River, Lebo and Tullock members, from youngest to oldest. The Tullock and Tongue River members are important regional aquifers, particularly where thicker sandstone and coal beds are present. In areas where coal beds have burned underground the overlying beds are baked into brittle, fractured zones referred to locally as "clinker" or "scoria." These zones are fairly permeable and because they do not erode easily, protect areas from erosion, resulting in hills. Scoria zones are locally important aquifers because they permit infiltration of precipitation and have permeable zones that readily transmit groundwater. Springs with generally good quality water occur in discharge zones along the edges of larger scoria deposits.

The Fort Union Formation thins along the edges, where older, Mesozoic rocks are exposed. Mesozoic aquifers important to the BLM lands in this exchange include, from youngest to oldest, the Hell Creek (also locally called Lance) Formation, the Fox Hills Sandstone, the Judith River Formation, and the Eagle Formation. Generally water in these aquifers is confined or "artesian" and water quality is highly variable, generally being best close to recharge zones where the formation is exposed.

The only significant Paleozoic aquifer involving the exchange lands is the massive limestone Madison Group aquifer, which is exposed in the Little Belt and Big Snowy mountains (a recharge zone) and underlies all of eastern Montana at considerable depth.

In addition to the geology listed in Table 3-3, BLM lands in Valley and Blaine counties have a veneer of glacial deposits left by continental glaciation, which generally obscure the underlying bedrock geology.

The mineral estate for the BLM lands will be retained by BLM and will not be exchanged. A review of BLM mining claims recordation data revealed no mining claims on the BLM tracts. The mineral report prepared by the BLM for this exchange concludes:

> The conveyance lands contain the potential for the occurrence of oil, gas, coal, and mineral materials resources. Development potential for oil and gas ranges from low to high. High oil and gas development potential exists on tracts located

[8] Montana Ground Water Atlas, (1998) Montana State Library, Natural Resource Information System. Typical groundwater production potential and water quality based on total dissolved solids can also be found in the Montana Ground Water Atlas.

in Valley, Chouteau, Blaine, and Hill Counties. There are no producing wells or leases on the tracts. Coal of high development potential occurs in the Rosebud County tracts. The coal is not likely to be developed within the foresceable future. The oil, gas, and coal rights would remain with the United States and the exercise of surface rights would not interfere with operations under the Mineral Leasing Act.

Mineral materials resources are abundant throughout the region and have the potential for occurrence on the tracts. There are no known pits or permits on any of the subject tracts, however, and development potential is unknown. Development of any mineral material resources on the tracts would be demand-driven and permitting is discretionary. There are no areas of high demand on any of the tracts for mineral materials at the present time. Mineral materials ownership would remain with the United States and permitting could continue with coordination with the private surface owner.

There are no geologic or mineral-related reasons which would preclude the conveyance of surface rights of the subject lands out of federal ownership. The proposed conveyance would not interfere with operations under the Mineral Leasing Act.

A copy of the mineral report is not included with this Environmental Assessment as minerals are not being exchanged, however, the mineral report is available upon request.

**Table 3-3 Geology and Mineral Potential of BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange**

| Parcel Number | County | Geologic Formation[9] | Mineral Potential[10] |
|---|---|---|---|
| JC-039 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas |
| JC-040 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas, Gravel |
| JC-064 | Chouteau | Eagle Sandstone | Oil, Gas |
| JC-061 | Chouteau | Eagle Sandstone | Oil, Gas |
| F-004 | Fergus | Judith River Fm | Gravel |
| F-018 | Fergus | Claggett Fm | NA |
| F-019 | Fergus | Judith River Fm/Claggett Fm | NA |
| F-020 | Fergus | Colorado Shale/Claggett Fm | Gravel |
| F-021 | Fergus | Claggett Fm/Judith River Fm | NA |
| F-035 | Fergus | Eagle Sandstone | NA |
| F-037 | Fergus | Eagle Sandstone/Claggett Fm | Oil, Gas |
| F-065 | Fergus | Bearpaw Shale | NA |
| F-074 | Fergus | Bearpaw Shale | Gravel |
| F-095 | Fergus | Colorado Shale | NA |
| F-114 | Fergus | Jurassic Undifferentiated | Gravel |
| F-174 | Fergus | Bearpaw Shale | NA |
| M-101 | Meagher | Colorado Shale | NA |
| M-102 | Meagher | Colorado Shale | NA |
| P-001 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |
| P-002 | Phillips | Bearpaw Shale | Oil, Gas |
| P-003 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |
| P-004 | Phillips | Bearpaw Shale | Oil, Gas |
| P-008 | Phillips | Judith River Fm | Oil, Gas |
| P-009 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |

| Table 3-3 Geology and Mineral Potential of BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Parcel Number | County | Geologic Formation[2] | Mineral Potential |
| P-018 | Phillips | Bearpaw Shale | Gravel |
| P-022 | Phillips | Judith River Fm | Oil, Gas, Gravel |
| P-027 | Phillips | Judith River Fm | Oil, Gas |
| P-059 | Phillips | Berpaw Shale | Oil, Gas |
| P-068 | Phillips | Judith River Fm | Oil, Gas, Gravel |
| P-071 | Phillips | Bearpaw Shale | Oil, Gas |
| P-108 | Phillips | Judith River Fm | Oil, Gas |
| P-109 | Phillips | Judith River Fm | Oil, Gas |
| P-110 | Phillips | Judith River Fm | Oil, Gas |
| P-125 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |
| P-130 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |
| P-145 | Phillips | Bearpaw Shale | Oil, Gas |
| P-188 | Phillips | Bearpaw Shale | Oil, Gas, Gravel |
| V-000 | Valley | Bearpaw Shale | Oil, Gas, Gravel |
| V-001 | Valley | Flaxville Gravel/Fort Union Fm | Oil, Gas, Gravel |
| V-002 | Valley | Flaxville Gravel/Fort union Fm | Oil, Gas |
| V-003 | Valley | Fort Union Fm | Oil, Gas, Gravel |
| V-015 | Valley | Fox Hills Sandstone | Oil, Gas |
| V-032 | Valley | Bearpaw Shale | Oil, Gas |
| V-037 | Valley | Alluvium | Oil, Gas |
| V-038 | Valley | Alluvium/Claggett Fm | Oil, Gas |
| V-043 | Valley | Alluvium/Claggett Fm/Judith River Fm | Oil, Gas |
| V-073 | Valley | Bearpaw Shale | Oil, Gas |
| V-076 | Valley | Claggett Fm/Judith River Fm | Oil, Gas |
| B-002 | Blaine | Flaxville Gravel | Oil, Gas |
| B-004 | Blaine | Judith River Fm | Oil, Gas |
| B-005 | Blaine | Alluvium | Oil, Gas |
| B-010 | Blaine | Judith River Fm | Oil, Gas |
| B-011 | Blaine | Judith River Fm | Oil, Gas |
| B-012 | Blaine | Alluvium/Judith River Fm | Oil, Gas |
| B-013 | Blaine | Judith River Fm | Oil, Gas |
| B-016 | Blaine | Judith River Fm | Oil, Gas |
| B-017 | Blaine | Bearpaw Shale | Oil, Gas |
| B-029 | Blaine | Judith River Fm | Oil, Gas |
| B-030 | Blaine | Judith River Fm | Oil, Gas |
| B-035 | Blaine | Colorado Shale | Oil, Gas |
| B-036 | Blaine | Colorado Shale | Oil, Gas |
| B-037 | Blaine | Colorado Shale | Oil, Gas |
| B-038 | Blaine | Colorado Shale | Oil, Gas |
| B-039 | Blaine | Colorado Shale | Oil, Gas |
| B-040 | Blaine | Tertiary Volcanic Rocks | Oil, Gas |

| Table 3-3 Geology and Mineral Potential of BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Parcel Number | County | Geologic Formation[9] | Mineral Potential[10] |
| B-041 | Blaine | Tertiary Volcanic Rocks | Oil, Gas |
| B-042 | Blaine | Tertiary Volcanic Rocks | Oil, Gas |
| B-065 | Blaine | Judith River Fm | Oil, Gas |
| B-092 | Blaine | Bearpaw Shale | Oil, Gas |
| B-096 | Blaine | Bearpaw Shale | Oil, Gas |
| B-143 | Blaine | Tertiary Volcanic Rocks | Oil, Gas |
| B-157 | Blaine | Bearpaw Shale | Oil, Gas |
| B-189 | Blaine | Alluvium | Oil, Gas |
| HC-004 | Chouteau | Colorado Shale | Oil, Gas |
| HC-007 | Chouteau | Colorado Shale | Oil, Gas |
| HC-008 | Chouteau | Colorado Shale | Oil, Gas |
| HC-012 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas |
| HC-013 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas |
| HC-014 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas |
| HC-015 | Chouteau | Bearpaw Shale | Oil, Gas |
| HC-018 | Chouteau | Terrace Deposits | Oil, Gas |
| HC-019 | Chouteau | Terrace Deposits | Oil, Gas |
| HC-020 | Chouteau | Judith River Fm | Oil, Gas |
| HC-022 | Chouteau | Bearpaw Shale | Oil, Gas |
| HC-024 | Chouteau | Tertiary Volcanic Rocks | Oil, Gas |
| HC-030 | Chouteau | Judith River Fn | Oil, Gas |
| HC-032 | Chouteau | Judith River Fm | Oil, Gas |
| HC-034 | Chouteau | Judith River Fm | Oil, Gas |
| HC-041 | Chouteau | Claggett Fm | Oil, Gas |
| HC-042 | Chouteau | Claggett Fm | Oil, Gas |
| HC-043 | Chouteau | Claggett Fm | Oil, Gas |
| HC-058 | Chouteau | Colorado Shale | Oil, Gas |
| HC-064 | Chouteau | Alluvium | Oil, Gas |
| HC-066 | Chouteau | Claggett Fm | Oil, Gas |
| HC-068 | Chouteau | Claggett Fm/Alluvium/Judith River Fm | Oil, Gas |
| H-001 | Hill | Judith River Fm | Oil, Gas |
| H-008 | Hill | Judith River Fm | Oil, Gas |
| H-011 | Hill | Judith River Fm | Oil, Gas |
| MC-1 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-2 & MC-36 | Rosebud | Fort Union Fm | Oil, Gas, Coal, Gravel |
| MC-3 & MC-4 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-5 & MC-6 | Rosebud | Fort Union Fm | Oil, Gas, Coal, Gravel |
| MC-7 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-8 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-9 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-10 | Rosebud | Fort Union Fm | Oil, Gas, Coal |

| Table 3-3 Geology and Mineral Potential of BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Parcel Number | County | Geologic Formation[9] | Mineral Potential[10] |
| MC-11 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-12 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-13 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-14 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-15 & MC-38 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-16, MC-17 & MC-18 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-19 | Rosebud | Hell Creek Fm | Oil, Gas, Coal |
| MC-20 | Rosebud | Fort Union Fm | Oil, Gas, Coal, Gravel |
| MC-21 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-22 | Rosebud | Fort Union Fm | Oil, Gas, Coal, Gravel |
| MC-23 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-24 & MC-25 | Rosebud | Fort Union Fm | Oil, Gas, Coal, Gravel |
| MC-26 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-27 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-28 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-29 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-30 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-31 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-32 | Rosebud | Fort Union Fm | Oil, Gas, Coal |
| MC-33 & MC-39 | Rosebud | Bearpaw Shale | Oil, Gas, Coal, Gravel |
| MC-34 | Custer | Fort Union Fm | Oil, Gas, Coal |
| MC-35 | Custer | Fort Union Fm | Oil, Gas, Coal |
| D-1 | Madison | Pre-Belt gneiss, schist, and related rocks | |

## 3.1.4 Surface Water Rights

Water rights on BLM lands involved in the Phase IV exchange are listed in Table 3-4. Water rights denoted with an asterisk (*) are rights that are on the BLM parcel, but are listed in the name of either the current or a previous BLM permittee.

[9] Geologic information is taken from Geologic Map of Montana provided by the Montana Bureau of Mines and Geology.

[10] Minerals listed have a moderate to high "occurrence potential", but widely varied "development potential". Mineral potential is listed for information only and is based on BLM's mineral report and other Field Office minerals information. No mineral estate will be exchanged.

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T21N, R9E, Sec. 22: SESW | JC-039 | Chouteau | 40.00 | None Listed | |
| T21N, R9E, Sec. 22: SESE | JC-040 | Chouteau | 40.00 | None Listed | |
| T21N, R9E, Sec. 25: NESW | JC-064 | Chouteau | 40.00 | None Listed | |
| T20N, R13E, Sec. 2: W2SW | JC-061 | Chouteau | 80.00 | None Listed | |
| T22N, R17E, Sec. 18: SESE | F-004 | Fergus | 40.00 | None Listed | |
| T21N, R16E, Sec. 4: E2SW<br>Sec. 9: NENW | F-018 | Fergus | 120.00 | None Listed | |
| T21N, R17E, Sec. 4: Lot 2, SESE<br>Sec. 5: Lot 1, SENE<br>Sec. 9: NESE<br>Sec. 10: SWNW, N2SW | F-019 | Fergus | 320.88 | None Listed | |
| T21N, R17E, Sec. 22: SENE<br>Sec. 23: NWSW | F-020 | Fergus | 80.00 | None Listed | |
| T21N, R17E, Sec. 27: SESW<br>Sec. 28: SWSW, SWSE<br>Sec. 33: SWNE, SENW,<br>NWSE | F-021 | Fergus | 240.00 | None Listed | |
| T20N, R15E, Sec. 30: NESW<br>Sec. 31: S2NE | F-035 | Fergus | 120.00 | 41R-W-003174 | Stockwater |
| T20N, R16E, Sec. 21: SENW<br>Sec. 22: NWSE | F-037 | Fergus | 80.00 | None Listed | |
| R19N, R22E, Sec. 29: NWSE | F-065 | Fergus | 40.00 | None Listed | |
| T18N, R22E, Sec. 3: SENW | F-074 | Fergus | 40.00 | 40B-W-199555* | Stockwater |
| T17N, R22E, Sec. 32: SESE<br>Sec. 33: SWSW | F-095 | Fergus | 80.00 | 40B-W-117495*<br>40B-W-185680(S2) | Stockwater<br>Stockwater |
| T15N, R19E, Sec. 2: SESE | F-114 | Fergus | 40.00 | None Listed | |
| T19N, R24E, Sec. 20: NW | F-174 | Fergus | 160.00 | None Listed | |
| T9N, R11E, Sec. 8: SESE | M-101 | Meagher | 40.00 | 40A-W-043381(SE)* | Irrigation |
| T10N, R11E, Sec. 31: SESE<br>Sec. 32: SWSW | M-102 | Meagher | 80.00 | None Listed | |
| T37N, R32E, Sec. 10: W2NW | P-001 | Phillips | 80.00 | None Listed | |
| T37N, R32E, Sec. 1: SE<br>T37N, R33E, Sec. 6: Lots 6 and 7, E2SW | P-002 | Phillips | 332.29 | Sec. 1—None Listed<br>Sec. 6—40K-W-073976<br>and 40K-W-073977 | <br>Wildlife<br>Stockwater |
| T37N, R32E, Sec. 23: NW | P-003 | Phillips | 160.00 | 40K-W-073890<br>40K-W-073891 | Stockwater<br>Wildlife |
| T37N, R33E, Sec. 19: NE | P-004 | Phillips | 160.00 | None Listed | |
| T36N, R33E, Sec. 31: Lots 2, 3, and 4 | P-008 | Phillips | 119.27 | 40J-W-072040<br>40J-W-072041 | Wildlife<br>Stockwater |
| T35N, R34E, Sec. 32: E2 | P-009 | Phillips | 320.00 | 40L-W-074018<br>40L-W-074019 | Stockwater<br>Wildlife |

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T34N, R29E, Sec. 17: NE | P-018 | Phillips | 160.00 | None Listed | |
| T34N, R30E, Sec. 30: NE | P-022 | Phillips | 160.00 | None Listed | |
| T34N, R33E, Sec. 6: Lot 2 | P-027 | Phillips | 40.36 | None Listed | |
| T33N, R27E, Sec. 27: NESE, SWSW | P-059 | Phillips | 80.00 | None Listed | |
| T32N, R28E, Sec. 20: NWSE | P-068 | Phillips | 40.00 | None Listed | |
| T32N, R28E, Sec. 34: E2SW, SE<br>T31N, R28E, Sec. 3: Lot 1, SENE | P-071 | Phillips | 319.99 | 40J-O068085-00<br>40J-O068086-00<br>40J-W068083-00<br>40J-W068084-00 | Wildlife<br>Stockwater<br>Stockwater<br>Wildlife |
| T29N, R29E, Sec. 2: S2SW<br>Sec. 11: All<br>Sec. 14: N2N2, SWNW<br>Sec. 15: S2NE, SE | P-108 | Phillips | 1160.00 | 40J-W-068009<br>40J-W-068010 | Stockwater<br>Wildlife |
| T29N, R29E, Sec. 15: E2SW<br>Sec. 22: NWNE | P-109 | Phillips | 120.00 | None Listed | |
| T29N, R29E, Sec. 26: NW<br>Sec. 27: NE, SWNW | P-110 | Phillips | 360.00 | None Listed | |
| T28N, R30E, Sec. 8: E2<br>Sec. 17: All<br>Sec. 18: NE | P-125 | Phillips | 1120.00 | 40J-W-074952<br>40J-W-074953<br>40J-W-067935<br>40J-W-067936 | Stockwater<br>Wildlife<br>Stockwater<br>Wildlife |
| T28N, R29E, Sec. 28: W2<br>Sec. 29: NENW<br>Sec. 33: E2NW, S2<br>Sec. 34: NE | P-130 | Phillips | 920 | 40J-W-112813(pvt)* | Irrigation |
| T26N, R28E, Sec. 4: W2SW<br>Sec. 5: E2SE | P-145 | Phillips | 160.00 | 40M-W074500-00<br>40M-W074501-00<br>40M-W186410-00(E2)<br>40M-W074500-00<br>40M-W074501-00 | Stockwater<br>Wildlife<br>Stockwater<br>Stockwater<br>Wildlife |
| T26N, R29E, Sec. 19: SESW, SWSE | P-188 | Phillips | 80.00 | 40M-W-074506 | Wildlife |
| T23N, R34E, Sec. 14: E2NW | V-000 | Valley | 80.00 | 40M-W-074507<br>40E-W-165124(pvt) | Stockwater<br>Stockwater |
| T37N, R42E, Sec. 2: SE, SESW<br>Sec. 11: N2NE<br>Sec. 12: NWNW | V-001 | Valley | 320.00 | None Listed | |
| T37N, R42E, Sec. 3: NWSE, S2SE<br>Sec. 10: NENE | V-002 | Valley | 160.00 | 40Q-W-077500<br>40Q-W-077501 | Wildlife<br>Stockwater |
| T37N, R41E, Sec. 5: SW | V-003 | Valley | 160.00 | None Listed | |
| T35N, R39E, Sec. 26: W2SE<br>Sec. 35: W2NE | V-015 | Valley | 160.00 | 40O-W-042113(pvt)*<br>40O-W-077425<br>40O-W-077426 | Stockwater<br>Wildlife<br>Stockwater |

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T29N, R37E, Sec. 12: Lots 9 and 10, N2NW, SENW, NESW | V-032 | Valley | 240.00 | None Listed | |
| T30N, R37E, Sec. 15: SWSW | V-037 | Valley | 40.00 | 40O-W-142840(pvt)<br>40N-W-168159(All)<br>40N-W-210855(All) | Industrial<br>Irrigation<br>Irrigation |
| T31N, R34E, Sec. 26: SESE<br>Sec. 35: SESE<br>T30N, R34E, Sec. 1: SW, W2SE<br>Sec. 12: Lot 1, NWNE, S2NW | V-038 | Valley | 478.07 | 40M-W186489-00(SE) | Irrigation |
| T31N, R34E, Sec. 25: S2S2, NWSW<br>T31N, R35E, Sec. 31: Lots 3, 4, and 5, SE NW,SWSE<br>T30N, R35E, Sec. 6: Lot 14 | V-043 | Valley | 457.95 | 40J-W040932(SE)<br>40M-W113774(W2SW) | Irrigation<br>Irrigation |
| T26N, R40E, Sec. 14: N2NE, NW, W2SW | V-073 | Valley | 320.00 | 40S-P051829 | Stockwater |
| T30N, R35E, Sec. 4: Lots 5, 6, and 7<br>Sec. 5: Lots 3 and 4<br>T31N, R35E, Sec. 32: Lot 3, NESW, N2SE | V-076 | Valley | 337.66 | None Listed | |
| T36N, R22E, Sec. 31: SENW | B-002 | Blaine | 40.00 | None Listed | |
| T32N, R19E, Sec. 3: Lot 3 | B-004 | Blaine | 39.10 | None Listed | |
| T32N, R22E, Sec. 6: Lot 4 | B-005 | Blaine | 34.58 | None Listed | |
| T32N, R20E, Sec. 14: S2SE | B-010 | Blaine | 80.00 | None Listed | |
| T32N, R19E, Sec. 22: SENE, NESE | B-011 | Blaine | 80.00 | None Listed | |
| T32N, R20E, Sec. 19: W2NE, NWSE | B-012 | Blaine | 120.00 | 40J-O-175860* | Stockwater |
| T32N, R19E, Sec. 26: W2SW | B-013 | Blaine | 80.00 | None Listed | |
| T31N, R21E, Sec. 20: NWNE | B-016 | Blaine | 40.00 | 40J-W-192863* | Stockwater |
| T31N, R22E, Sec. 18: SESE | B-017 | Blaine | 40.00 | None Listed | |
| T29N, R21E, Sec. 24: SESW | B-029 | Blaine | 40.00 | 40I-W-027005(SW)* | Stockwater |
| T29N, R21E, Sec. 24: SESE | B-030 | Blaine | 40.00 | None Listed | |
| T28N, R21E, Sec. 7: Lot 1, NENW | B-035 | Blaine | 77.06 | None Listed | |
| T28N, R21E, Sec. 6: SESE | B-036 | Blaine | 40.00 | None Listed | |
| T28N, R21E, Sec. 17: NWSW<br>Sec. 18: NESE | B-037 | Blaine | 80.00 | 40EJ-W-027022* | Stockwater |
| T28N, R21E, Sec. 17: S2SE | B-038 | Blaine | 80.00 | None Listed | |
| T28N, R21E, Sec. 19: NWNE | B-039 | Blaine | 40.00 | None Listed | |
| T27N, R17E, Sec. 26: SWNW | B-040 | Blaine | 40.00 | None Listed | |
| T27N, R17E, Sec. 26: NESW | B-041 | Blaine | 40.00 | None Listed | |
| T27N, R17E, Sec. 34: SESE | B-042 | Blaine | 40.00 | None Listed | |
| T27N, R21E, Sec. 11: SWNW, NWSW | B-065 | Blaine | 80.00 | None Listed | |
| T36N, R19E, Sec. 25: W2 | B-092 | Blaine | 320.00 | 40J-W-066250<br>40J-W-066251 | Wildlife<br>Stockwater |
| T36N, R20E, Sec. 18: NE | B-096 | Blaine | 160.00 | None Listed | |

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T26N, R19E, Sec. 7: NESE | B-143 | Blaine | 40.00 | None Listed | |
| T24N, R18E, Sec. 25: SENE | B-157 | Blaine | 40.00 | None Listed | |
| T31N, R25E, Sec. 6: SWSE<br>Sec. 8: NWNW<br>Sec. 21: Lots 2 and 5<br>Sec. 23: Lot 4<br>Sec. 26: Lots 1 and 6<br>Sec. 27: Lot 1<br>Sec. 28: Lot 1 | B-189 | Blaine | 234.96 | Multiple | Irrigation<br>Stockwater |
| T24N, R7E, Sec. 14: S2NW | HC-004 | Chouteau | 80.00 | 41O-W-144511 | Stockwater |
| T24N, R7E, Sec. 3: SENW, N2SW | HC-007 | Chouteau | 120.00 | 41O-W-109742* | Stockwater |
| T24N, R7E, Sec. 3: SWSE | HC-008 | Chouteau | 40.00 | None Listed | |
| T27N, R16E, Sec. 11: NWSE | HC-012 | Chouteau | 40.00 | 41T-W-047036*<br>41T-W-047037 | Stockwater<br>Stockwater |
| T26N, R16E, Sec. 2: SESW | HC-013 | Chouteau | 40.00 | None Listed | |
| T26N, R16E, Sec. 3: Lot 1 | HC-014 | Chouteau | 39.96 | None Listed | |
| T26N, R16E, Sec. 3: NESE | HC-015 | Chouteau | 40.00 | None Listed | |
| T26N, R16E, Sec. 17: E2NE | HC-018 | Chouteau | 80.00 | None Listed | |
| T26N, R16E, Sec. 18: Lot 1 | HC-019 | Chouteau | 34.47 | None Listed | |
| T26N, R16E, Sec. 30: NESE | HC-020 | Chouteau | 40.00 | None Listed | |
| T26N, R16E, Sec. 33: SESW | HC-022 | Chouteau | 40.00 | None Listed | |
| T26N, R17E, Sec. 4: SESW | HC-024 | Chouteau | 40.00 | 41T-P-010328(SW)* | Irrigation |
| T24N, R16E, Sec. 17: NENW | HC-030 | Chouteau | 40.00 | None Listed | |
| T24N, R16E, Sec. 20: NESE | HC-032 | Chouteau | 40.00 | None Listed | |
| T24N, R16E, Sec. 21: SWSW, W2NE | HC-034 | Chouteau | 120.00 | None Listed | |
| T26N, R13E, Sec. 5: SWSE | HC-041 | Chouteau | 40.00 | None Listed | |
| T26N, R13E, Sec. 8: NESW | HC-042 | Chouteau | 40.00 | 41T-W-041916(N2SW)*<br>41T-W-041918(N2SW)*<br>41T-W-041919(N2SW)*<br>41T-W-041920(S2SW)* | Stockwater<br>Stockwater<br>Stockwater<br>Stockwater |
| T26N, R13E, Sec. 17: NENW | HC-043 | Chouteau | 40.00 | None Listed | |
| T24N, R8E, Sec. 4: Lots 1 and 2, SWNE | HC-058 | Chouteau | 125.78 | None Listed | |
| T23N, R15E, Sec. 12: SENW,NESW, W2SE<br>Sec. 13: NE<br>Sec. 24: NWSW | HC-064 | Chouteau | 360.00 | None Listed | |
| T24N, R16E, Sec. 18: Lot 3 | HC-066 | Chouteau | 28.84 | None Listed | |
| T23N, R15E, Sec. 17: SENW, SWNE<br>Sec. 21: N2N2, SWNW<br>Sec. 22: NWSE<br>Sec. 23: E2SW<br>Sec. 25: NENW | HC-068 | Chouteau | 440.00 | None Listed | |

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T37N, R11E, Sec. 2: Lots 5, 6, 7, and 8, SWNE | H-001 | Hill | 114.04 | None Listed | |
| T32N, R11E, Sec. 5: Lot 1 | H-008 | Hill | 31.64 | 41P-W-040767 | Commercial |
| T30N, R11E, Sec. 1: NESE | H-011 | Hill | 40.00 | 41P-W-040767 | Commercial |
| T3N, R39E, Sec. 12: Lots 1, 2, 3, and 4, S2SW, W2SE | MC-1 | Rosebud | 353.96 | None Listed | |
| T3N, R40E, Sec. 2: Lots 1, 2, 3, 4, S2N2, S2 | MC-2 & MC-36 | Rosebud | 640.60 | 42KJ-W-080043(NESE)<br>42KJ-W-080044(NESE) | Stockwater<br>Wildlife |
| T3N, R40E, Sec. 6: Lot 7, SENE, E2SE | MC-3 & MC-4 | Rosebud | 155.85 | 42KJ-W-176325 | Irrigation |
| T3N, R40E, Sec. 8: N2N2, S2S2 | MC-5 & MC-6 | Rosebud | 320.00 | None Listed | |
| T3N, R40E, Sec. 18: Lot 1 | MC-7 | Rosebud | 36.15 | None Listed | |
| T3N, R40E, Sec. 18: NENE, 2NE, SE | MC-8 | Rosebud | 280.00 | 42KJ-U-080046<br>42KJ-W-080045 | Wildlife<br>Stockwater |
| T3N, R40E, Sec. 30: Lots 1, 2, 3, 4, E2, E2W2 | MC-9 | Rosebud | 624.64 | None Listed | |
| T3N, R41E, Sec. 2: Lots 1, 2, S2NE, SE | MC-10 | Rosebud | 320.25 | None Listed | |
| T3N, R41E, Sec. 4: NESE, S2SE | MC-11 | Rosebud | 120.00 | None Listed | |
| T3N, R41E, Sec. 6: Lots 1, 2, S2NE, SE | MC-12 | Rosebud | 320.15 | None Listed | |
| T3N, R41E, Sec. 10: S2SW | MC-13 | Rosebud | 80.00 | None Listed | |
| T3N, R42E, Sec. 6: Lot 1 | MC-14 | Rosebud | 44.65 | None Listed | |
| T3N, R42E, Sec. 12: W2 | MC-15 & MC-38 | Rosebud | 320.00 | None Listed | |
| T3N, R42E, Sec. 18: Lots 2, 3, N2NE, SE | MC-16, MC-17 & MC-18 | Rosebud | 320.28 | None Listed | |
| T4N, R39E, Sec. 4: NWSW | MC-19 | Rosebud | 40.00 | None Listed | |
| T4N, R40E, Sec. 26: SESE | MC-20 | Rosebud | 40.00 | None Listed | |
| T4N, R40E, Sec. 28: E2SW, SE | MC-21 | Rosebud | 240.00 | 42KJ-W-048525(W2) | Stockwater |
| T4N, R40E, Sec. 32: NWNW | MC-22 | Rosebud | 40.00 | 42KJ-W-176325 | Irrigation |
| T4N, R40E, Sec. 32: SESE | MC-23 | Rosebud | 40.00 | 42KJ-W-176325* | Irrigation |
| T4N, R42E, Sec. 22: N2NE, SENE, NW, SWSW | MC-24 & MC-25 | Rosebud | 320.00 | None Listed | |
| T4N, R43E, Sec. 22: All | MC-26 | Rosebud | 640.00 | 42A-P-094814 | Stockwater |
| T4N, R43E, Sec. 26: N2N2 | MC-27 | Rosebud | 160.00 | 42A-W-129373(W2NE)* | Stockwater |
| T4N, R43E, Sec. 28: Lots 1 and 2, NE, E2NW | MC-28 | Rosebud | 326.54 | 42A-W-079338<br>42A-W-079341 | Stockwater<br>Wildlife |
| T4N, R43E, Sec. 28: Lots 3 and 4, E2SW, SE | MC-29 | Rosebud | 326.58 | 42A-W-079339<br>42A-W-079340 | Wildlife<br>Stockwater |

| Table 3-4 Water Rights on BLM Land in the Phase IV CBSA Exchange | | | | | |
|---|---|---|---|---|---|
| Legal Description | Parcel No. | County | Acres | Water Rights | Use |
| T4N, R43E, Sec. 32: SENE | MC-30 | Rosebud | 40.00 | None Listed | |
| T4N, R43E, Sec. 32: SENW | MC-31 | Rosebud | 40.00 | None Listed | |
| T4N, R43E, Sec. 34: All | MC-32 | Rosebud | 640.00 | 42A-W-079342<br>42A-W-079343 | Wildlife<br>Stockwater |
| T6N, R38E, Sec. 26: E2 | MC-33 & MC-39 | Rosebud | 320.00 | None Listed | |
| T7N, R45E, Sec. 4: NWSW | MC-34 | Rosebud | 40.00 | None Listed | |
| T8N, R45E, Sec. 28: W2 | MC-35 | Rosebud | 320.00 | None Listed | |
| T4S, R2W, Sec. 2: Lot 7<br>Sec. 10: Lots 1, 2, 3, 4, 5, 16, 17, and 18, S2SWSE | D-1 | Madison | 87.35 | Numerous | Mining<br>Stockwater<br>Irrigation |

## 3.1.5 Vegetation

The Montana Vegetation Types map[11] lists vegetative types for the BLM lands involved in this exchange proposal. Table 3-5 indicates parcels within each vegetative type and typical species. While this table provides a description of vegetation that might be expected on each tract, it does not account for vegetative diversity that occurs within the vegetation types and should not be considered a detailed inventory of the vegetation on each tract or parcel.

| Table 3-5 Vegetative Type Characteristics of BLM Lands<br>(Species in bold type are distinguishing species) | | | | |
|---|---|---|---|---|
| Foothill Grassland | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| JC039, JC040, M101, M102, B029, B030, B035, B036, B037, B038, B039, B042, B065, HC013, HC014, HC015, HC018, HC019, HC024, HC030, HC032, HC034, HC066 | **Bluebunch wheatgrass**<br>**Western wheatgrass**<br>**Idaho fescue**<br>**Sheep fescue**<br>Needle-and-thread<br>Mountain brome<br>Pumpelly brome<br>Thickspike wheatgrass<br>Bluegrass<br>Sandberg bluegrass<br>Prairie junegrass<br>Green needlegrass<br>Blue grama | Western yarrow<br>Clubmoss<br>Lupine<br>Phlox | Douglas hawthorne<br>Saskatoon serviceberry<br>Western chokecherry<br>Russet buffaloberry<br>Rose | Quaking aspen |

[11] Payne, G.F., 1973 Vegetative Rangeland Types in Montana, Montana Agricultural Experiment Station, Montana State University, Bozeman.

| Table 3-5 Vegetative Type Characteristics of BLM Lands (Species in bold type are distinguishing species) | | | | |
|---|---|---|---|---|
| **Badlands Grassland** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| MC35 | Blue grama<br>Western wheatgrass<br>Needle-and-thread<br>Buffalograss<br>Sandberg bluegrass<br>Bluebunch whtgrass<br>Plains muhly<br>Little bluestem<br>Green needlegrass<br>Prairie sandreed | Broom snakeweed<br>Phlox<br>Wildbuckwheat<br>Scarlet globemallow<br>Goosefoot | **Shadscale saltbush**<br>Greasewood<br>Sagebrush<br>Plains pricklypear<br>Silver sagebrush<br>Rabbitbrush<br>Nuttall saltbush<br>Creeping juniper | Absent or Occasional |
| **Teton River-Judith Basin Grassland** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| JC064, F095, HC004, HC007, HC008, HC058 | **Sandberg bluegrass**<br>**Prairie junegrass**<br>Blue grama<br>Needle-and-thread<br>Western wheatgrass<br>Bluebunch wheatgrass<br>Needleleaf Sedge<br>Threadleaf Sedge | Fringed Sagewort | Absent or Occasional | Absent or Occasional |
| **Ponderosa Pine Savannah** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| MC1, MC2/ MC36, MC3/ MC4, MC5/ MC6, MC7, MC8, MC9, MC10, MC11, MC12, MC13, MC14, MC16/ MC17/ MC18, MC19, MC20, MC21, MC22, MC23, MC33/ MC39 | Western wheatgrass<br>Bluebunch wheatgrass<br>Blue grama<br>Sandberg bluegrass<br>Needle-and-thread<br>Little bluestem<br>Buffalograss<br>Prairie junegrass<br>Indian ricegrass<br>Idaho fescue<br>Sideoats grama | Phlox<br>Lupine<br>Wild buckwheat | Skunkbush sumac<br>Common snowberry<br>Plains pricklypear | **Pondersoa pine**<br>Rocky Mountain juniper |

| Table 3-5 Vegetative Type Characteristics of BLM Lands<br>(Species in bold type are distinguishing species) | | | | |
|---|---|---|---|---|
| Sagebrush-Saltbush | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| F174 | **Thickspike wheatgrass**<br>**Streambank wheatgrass**<br>**Alkali sacaton**<br>Western wheatgrass<br>Blue grama<br>Plains reedgrass<br>Needle-and-thread<br>Sandberg bluegrass<br>Green needlegrass<br>Indian ricegrass<br>Threadleaf sedge | **Biscuitroot**<br>**Nuttall monolepis**<br>**Wild onion**<br>**Wildbuckwheat**<br>**Scarlet globemallow**<br>Broom Snakeweed | **Scurfless Saltbush**<br>**Nuttall saltbush**<br>**Sagebrush**<br>Plains pricklypear<br>Black greasewood | Absent or Occasional |
| Northern Grassland | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| P001, P002, P003, P004, P008, P009, P018, P022, P027, P059, P068, P071, V001, V002, V003, V-015, V032, V038, V043,V073, V076, B002, B004, B010, B011, B012, B013, B016, B017, HC064, HC068, H001, H008 | Blue grama<br>Western wheatgrass<br>Sedges<br>Needleleaf sedge<br>Needle-and-thread<br>Prairie Junegrass<br>Plains reedgrass<br>Threadleaf sedge | **Clubmoss**<br>**Fringed Sagewort** | Absent or occasional | Absent or occasional |
| Sandy Grassland/Northern Grassland | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| H011 | **Needle-and-thread**<br>**Threadleaf sedge**<br>Bluebunch Wheatgrass<br>Indian nicegrass<br>Blue Grama<br>Prairie Junegrass<br>Sand bluestem<br>Sand dropseed | Breadfoot Scurfpea<br>Scarlet globemallow<br>Purple pointlow | Yucca<br>Rose<br>Silver sagebrush<br>Skunkbush sumac | Absent or Occasional |

| Table 3-5 Vegetative Type Characteristics of BLM Lands (Species in bold type are distinguishing species) | | | | |
|---|---|---|---|---|
| **Missouri Breaks Scrub-Pine** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| JC061, F004, F018, F019, F020, F021, F035, F037, HC041, HC042, HC043, V-000 | **Plains Muhly**<br>Bluebunch wheatgrass<br>Blue Grama<br>Western wheatgrass<br>Little bluestem<br>Sandberg Bluegrass<br>Threadleaf sedge | Phlox<br>Wild buckwheat | Sagebrush<br>Rabbitbrush<br>Yucca<br>Plains pricklypear | Ponderosa pine<br>Juniper |
| **Central Grassland** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| F065, F074, B157, HC020, HC022,MC15/ MC38, MC24 / MC25, MC26, MC27, MC28, MC29, MC30, MC31, MC32, MC34, B005, B092, B096, P108, P109, P110, P125, P130, P145, P188 | Blue grama<br>Western wheatgrass<br>Needle-and-thread<br>Sandberg bluegrass<br>Green Needlegrass<br>Bluebunch Wheatgrass<br>Plains reedgrass<br>Prairie junegrass<br>Plains muhly<br>Threadleaf sedge<br>Needleleaf sedge | Fringed sagewort<br>Broom snakeweed<br>Phlox<br>Wild buckwheat<br>Scarlet globmallow | **Sagebrush**<br>Plains pricklypear | Absent or Occasional |
| **Eastern Montana Ponderosa Pine Forest** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| F114 | **Needle-and-thread**<br>**Blue grama**<br>**Little bluestem**<br>Idaho fescue<br>Western wheatgrass<br>Prairie junegrass<br>Sandberg bluegrass<br>Bluebunch Wheatgrass<br>Sideoats grama<br>Threadleaf sedge<br>Needleleaf sedge<br>Bluegrass | Phlox<br>Wild buckwheat<br>Lupine | Skunkbush sumac<br>Western snowberry | Ponderosa pine<br>Rocky Mtn juniper |

| Table 3-5 Vegetative Type Characteristics of BLM Lands (Species in bold type are distinguishing species) | | | | |
|---|---|---|---|---|
| **Undifferentiated Stream and Lake** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| V037, B189 | Western wheatgrass<br>Bluegrass<br>Cheatgrass brome<br>Blue grama<br>Saltgrass | Goosefoot<br>Sunflower<br>Stickseed<br>Plaintain | Rose<br>Sagebrush<br>Silver sagebrush<br>Rabbitbrush<br>Common snowberry<br>Silver buffaloberry | Cottonwood<br>Willow |
| **Foothill Sagebrush** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| D1 | Idaho fescue<br>Blue grama<br>Slender wheatgrass<br>Needlegrass<br>Prairie junegrass<br>Canby bluegrass<br>Indian ricegrass<br>Threadleaf sedge<br>Bluebunch wheatgrass | Rose pussytoes<br>Douglas phlox<br>Sulphur wild buckwheat<br>Spreading fleabane<br>Ballhead sandwort | Sagebrush<br>Douglas rabbitbrush<br>Rubber rabbitbrush<br>Fringed sagewort<br>Broom snakeweed | Absent or occasional |
| **Lodgepole Pine-Douglas Fir Forest** | | | | |
| Tracts | Grasses | Forbs | Shrubs | Trees |
| B040, B041, B143, HC012 | Pine reedgrass<br>Elk sedge<br>Bluegrass | Showy Aster | Big whortleberry<br>Shinyleaf spirea<br>Rose spirea<br>Utah honeysuckle<br>Grouse whortleberry | Lodgepole pine |

### *3.1.5.1 Rare Plants*

No threatened or endangered plants are known to exist on the parcels of BLM lands being considered for exchange. No inventories have been conducted on most of these tracts so no sensitive plant species were detected during a Natural Heritage Program data search. However, in some cases, rare or sensitive plants exist or have historically existed nearby the lands being proposed for exchange, which may include similar habitat with potential for these rare plants.

### *3.1.5.2 Noxious Weeds*

Noxious weed infestations are known to occur on some BLM tracts. F102 has Canada Thistle, B189 has russian knapweed and leafy spurge, HC068 has Canada thistle, and P068 has Canada thistle. Some of the private land in the area of the BLM tracts located in Rosebud County have known noxious weed infestations and it is likely that some of those weeds have spread onto the BLM tracts. For those BLM tracts which have public road access, noxious weeds are a high probability. Weeds may be present on other BLM tracts, but have not been formally documented.

## 3.1.6 Wildlife Habitat and Fisheries

Almost all of the BLM land would be considered good habitat for some of the usual wildlife species common to eastern, northern and central Montana. These species would include big game, such as mule deer and white-tailed deer on the tracts with brush, juniper, and ponderosa pine cover, and pronghorn antelope on the more open grassy tracts. Some BLM tracts in Chouteau and Fergus Counties also have elk habitat on them. All tracts have various small mammals such as coyote, bobcat, raccoon, porcupine, and other smaller mammals. Birds, ranging from neotropical migrants, upland game birds (particularly sharp-tailed and sage grouse), and raptors probably commonly use these lands to some degree. Table 3-6 is intended to provide information about these lands where special circumstances should be noted. Information in regards to Threatened and Endangered Species and Sensitive Species was obtained from the Montana Natural Heritage Program and indicates that habitat for certain species is in the general area of the BLM tracts but does not indicate that those tracts provide critical habitat for those species. Where necessary, these circumstances are discussed in more detail following Table 3-6. Appendix B contains a list of U.S. Fish and Wildlife Service candidate, threatened and endangered species, BLM sensitive species, and BLM watch species that have some probability of occurring in the area of the exchange tracts. There are no known fisheries on any of the BLM tracts. Neotropical migrants also utilize many of the tracts periodically.

**Table 3-6 Wildlife and Habitat on BLM Lands in the Phase IV Crow Boundary Settlement Act Land Exchange**

| Parcel Number | County | Crucial Big Game Habitat | T&E Species Concerns | Sensitive Species Concerns | Riparian/ Wetlands |
|---|---|---|---|---|---|
| JC-039 | Chouteau | No | No | No | No |
| JC-040 | Chouteau | No | No | No | No |
| JC-061 | Chouteau | Crucial Mule Deer Habitat | No | Possible Raptor Nesting Sites | No |
| JC-064 | Chouteau | No | No | No | No |
| F-004 | Fergus | No | No | Close Proximity to Big Horn Sheep Range | No |
| F-018 | Fergus | No | No | No | No |
| F-019 | Fergus | No | No | No | No |
| F-020 | Fergus | No | No | No | Riparian (.25 mile, ephemeral) |
| F-021 | Fergus | No | No | No | Riparian(.75 mile, ephemeral) |
| F-035 | Fergus | No | No | No | No |
| F-037 | Fergus | No | No | No | No |
| F-065 | Fergus | No | No | Ferruginous Hawk Habitat | No |
| F-074 | Fergus | No | No | Ferruginous Hawk Habitat | No' |
| F-095 | Fergus | No | No | Sage Grouse and Ferruginous Hawk Habitat | No |
| F-114 | Fergus | No | No | No | No |
| F-174 | Fergus | No | No | Sage Grouse and Ferruginous Hawk Habitat | No |

| Table 3-6 Wildlife and Habitat on BLM Lands in the Phase IV Crow Boundary Settlement Act Land Exchange | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Crucial Big Game Habitat | T&E Species Concerns | Sensitive Species Concerns | Riparian/ Wetlands |
| M-101 | Meagher | No | No | No | No |
| M-102 | Meagher | No | No | No | No |
| P-001 | Phillips | No | Possible Swift Fox Habitat | No | Yes |
| P-002 | Phillips | No | Possible Swift Fox Habitat | Burrowing Owls | Riparian associated w/small pit reservoir |
| P-003 | Phillips | No | Possible Swift Fox Habitat | No | Riparian associated w/small pit reservoir |
| P-004 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-008 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-009 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-018 | Phillips | No | Possible Swift Fox Habitat | No | Yes |
| P-022 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-027 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-059 | Phillips | No | No | No | No |
| P-068 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-071 | Phillips | No | Possible Swift Fox Habitat | No | No |
| P-108 | Phillips | No | Possible Swift Fox and Moutain Plover Habitat | Prairie Dog, Sage Grouse & Ferruginous Hawk Habitat | No |
| P-109 | Phillips | No | Possible Swift Fox and Mountain Plover Habitat | Ferruginous Hawk Habitat | No |
| P-110 | Phillips | No | Possible Swift Fox and Mountain Plover Habitat | Sage Grouse | Riparian (.10 mile, ephemeral) |
| P-125 | Phillips | No | No | No | Riparian associated w/small pit reservoir |
| P-130 | Phillips | No | Possible Swift Fox and Mountain Plover Habitat | No | Riparian (.30 mile, ephemeral) |
| P-145 | Phillips | No | Possible Mountain Plover Habitat | Ferruginous Hawk Habitat | Riparian associated w/small reservoir |
| P-188 | Phillips | No | Possible Mountain Plover Habitat | Ferruginous Hawk Habitat | Riparian associated w/small reservoir |
| V-000 | Valley | No | Bald Eagle winter foraging | No | Riparian (.50 mile, ephemeral) |

| Table 3-6 Wildlife and Habitat on BLM Lands in the Phase IV Crow Boundary Settlement Act Land Exchange | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Crucial Big Game Habitat | T&E Species Concerns | Sensitive Species Concerns | Riparian/ Wetlands |
| V-001 | Valley | No | No | No | Yes |
| V-002 | Valley | No | No | No | No |
| V-003 | Valley | No | No | No | No |
| V-015 | Valley | No | No | Baird's Sparrow | No |
| V-032 | Valley | No | No | Baird's Sparrow | Riparian(1.0 mile, ephemeral) |
| V-037 | Valley | No | No | No | No |
| V-038 | Valley | No | No | No | No |
| V-043 | Valley | No | No | No | Riparian (.25 mile, Beaver Creek) |
| V-073 | Valley | No | No | No | No |
| V-076 | Valley | No | No | No | No |
| B-002 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-004 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-005 | Blaine | No | Possible Swift Fox and Mountain Plover Habitat | No | No |
| B-010 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-011 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-012 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-013 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-016 | Blaine | No | Possible Swift Fox and Mountain Plover Habitat | No | No |
| B-017 | Blaine | No | Possible Swift Fox and Mountain Plover Habitat | No | No |
| B-029 | Blaine | No | No | No | No |
| B-030 | Blaine | No | No | No | No |
| B-035 | Blaine | No | No | No | No |
| B-036 | Blaine | No | No | No | No |
| B-037 | Blaine | No | No | No | No |
| B-038 | Blaine | No | No | No | No |
| B-039 | Blaine | No | No | No | No |
| B-040 | Blaine | No | No | No | No |
| B-041 | Blaine | No | No | No | No |

| Table 3-6 Wildlife and Habitat on BLM Lands in the Phase IV Crow Boundary Settlement Act Land Exchange | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Crucial Big Game Habitat | T&E Species Concerns | Sensitive Species Concerns | Riparian/ Wetlands |
| B-042 | Blaine | No | No | No | No |
| B-065 | Blaine | No | No | Sage Grouse | No |
| B-092 | Blaine | No | Possible Swift Fox Habitat | Sage Grouse | No |
| B-096 | Blaine | No | Possible Swift Fox Habitat | No | No |
| B-143 | Blaine | No | No | Raptors | No |
| B-157 | Blaine | No | No | No | No |
| B-189 | Blaine | No | Possible Swift Fox and Mountain Plover Habitat | Neotropical Birds and Raptors | Riparian (1.25 miles, Milk River) |
| HC-004 | Chouteau | No | No | No | No |
| HC-007 | Chouteau | No | No | No | No |
| HC-008 | Chouteau | No | No | No | No |
| HC-012 | Chouteau | No | No | No | No |
| HC-013 | Chouteau | No | No | Sage Grouse and Raptor Cliffs | No |
| HC-014 | Chouteau | No | No | Raptor nests | No |
| HC-015 | Chouteau | No | No | Raptor nests | No |
| HC-018 | Chouteau | No | No | Sage Grouse | No |
| HC-019 | Chouteau | No | No | Sage Grouse | No |
| HC-020 | Chouteau | No | No | No | No |
| HC-022 | Chouteau | No | No | No | No |
| HC-024 | Chouteau | No | No | No | No |
| HC-030 | Chouteau | No | No | No | No |
| HC-032 | Chouteau | No | No | No | No |
| HC-034 | Chouteau | No | No | No | No |
| HC-041 | Chouteau | No | No | No | No |
| HC-042 | Chouteau | No | No | No | No |
| HC-043 | Chouteau | No | No | No | No |
| HC-058 | Chouteau | No | No | No | No |
| HC-064 | Chouteau | No | No | Sage Grouse | No |
| HC-066 | Chouteau | No | No | No | No |
| HC-068 | Chouteau | No | No | Sage Grouse and Neotropical Birds | No |
| H-001 | Hill | No | No | No | No |
| H-008 | Hill | No | No | No | No |
| H-011 | Hill | No | No | No | No |
| MC-1 | Rosebud | No | No | No | No |
| MC-2 & MC-36 | Rosebud | No | No | No | Riparian associated w/small reservoir |

| Table 3-6 Wildlife and Habitat on BLM Lands in the Phase IV Crow Boundary Settlement Act Land Exchange | | | | | |
|---|---|---|---|---|---|
| Parcel Number | County | Crucial Big Game Habitat | T&E Species Concerns | Sensitive Species Concerns | Riparian/ Wetlands |
| MC-3 & MC-4 | Rosebud | No | No | No | Riparian (.25 mile, W. Fk Armells Crk) |
| MC-5 & MC-6 | Rosebud | No | No | No | No |
| MC-7 | Rosebud | No | No | No | No |
| MC-8 | Rosebud | No | No | No | Riparian(.50 mile, ephemeral) |
| MC-9 | Rosebud | No | No | No | No |
| MC-10 | Rosebud | No | No | No | No |
| MC-11 | Rosebud | No | No | No | No |
| MC-12 | Rosebud | No | No | Prairie Dog | Riparian(.10 mile, E. Fk. Armells Crk) |
| MC-13 | Rosebud | No | No | No | No |
| MC-14 | Rosebud | No | No | No | No |
| MC-15 & MC-38 | Rosebud | No | No | No | No |
| MC-16, MC-17 & MC-18 | Rosebud | No | No | No | No |
| MC-19 | Rosebud | No | No | No | No |
| MC-20 | Rosebud | No | No | No | No |
| MC-21 | Rosebud | No | No | No | No |
| MC-22 | Rosebud | No | No | No | No |
| MC-23 | Rosebud | No | No | No | No |
| MC-24 & MC-25 | Rosebud | No | No | No | No |
| MC-26 | Rosebud | No | No | No | No |
| MC-27 | Rosebud | No | No | Loggerhead Shrike | No |
| MC-28 | Rosebud | No | No | Sage Grouse | No |
| MC-29 | Rosebud | No | No | Sage Grouse | Small Reservoir Silting In |
| MC-30 | Rosebud | No | No | Sage Grouse | No |
| MC-31 | Rosebud | No | No | No | No |
| MC-32 | Rosebud | No | No | Sage Grouse | No |
| MC-33 & MC-39 | Rosebud | No | Possible Bald Eagle Foraging Area | No | No |
| MC-34 | Custer | No | Possible Bald Eagle Foraging Area | No | No |
| MC-35 | Custer | No | Possible Bald Eagle Foraging Area | No | No |
| D-1 | Madison | No | No | No | No |

### 3.1.6.1 Blaine County Wildlife

Some of the Blaine County tracts (B002, B092, and B096) are located within a native shortgrass prairie habitat with springs, coulees, lotic riparian brush communities, prairie potholes, and healthy sagebrush communities. This prairie habitat is crucial for many neotropical migrants and has been identified as one of the fastest declining habitat types in North America. These tracts are often isolated within large blocks of private and State rangeland, pasture land, Conservation Reserve Program (CRP) land, and grain fields. Land within these areas often contain high value habitat for waterfowl, mule and white-tail deer, pronghorn antelope, sharptail grouse, sage grouse(species of concern), ferruginous hawk(species of concern), Swainsons hawk, long-billed curlew, loggerhead shrike(species of concern), and many other species dependant on this habitat type.

According to information received from the Montana Natural Heritage Program, some BLM parcels (B002, B004, B005, B010, B011, B012, B013, B016, B017, B092, B096, and B189) have potential for swift fox(candidate for listing) habitat and some BLM parcels (B005, B016, B017, and B189) have potential for mountain plover(proposed threatened) habitat. However, even though these parcels are within the general range of habitat for those species, neither species has been recorded on the BLM tracts nor do the BLM tracts provide crucial habitat for either species.

Parcels B065 and B092 have sage grouse habitat on them and parcel B143 consists of the top of a butte which is utilized by raptors, however, it is not known if there are any nests on the tract or in the immediate vicinity of the tract. Also Parcel B189 has about 1.25 miles of the Milk River adjacent to several of the small tracts which comprise this parcel. The Milk River is a perennial stream which often floods as a result of rapid snow melt or heavy rains. Consequently, these tracts have a healthy riparian community which is utilized by whitetail deer, numerous types of birds, including neotropicals and raptors, and other small mammals.

Most of the BLM tracts which are near the center of the southern half of the County (B029, B030, B035, B036, B037, B038, B039, B042, and B065) are in a Foothill Grassland vegetative type which consists of terrain with more relief and somewhat more rugged than that in the northern half of the County. Mule deer, pronghorn antelope, sharptail grouse, and numerous other birds and small mammals inhabit these tracts.

Parcel B157 is at the extreme southern end of the County and is located at the "top" of the Missouri River breaks. Besides the usual big game species, this tract is also sometimes utilized by Big Horn Sheep which inhabit the Missouri River breaks in that general area.

The rest of the Blaine County tracts consist of an "elevated" short grass prairie habitat, which nationally and locally, has been extensively farmed for small grains where terrain and soils allow. These tracts are isolated within large blocks of private and State rangeland, tame pasture land, CRP lands, and grain fields. These tracts are used seasonally by a variety of wildlife including but not limited to pronghorn, whitetail and mule deer, Hungarian partridge, sharptail grouse, coyotes, red fox, northern harrier, meadowlarks, mourning dove, and various sparrows. Other bird species using these tracts can be considered generalists and have not seen the dramatic declines of other grassland adapted species. These tracts have not been classified as crucial habitat for any wildlife species.

### 3.1.6.2 Chouteau County Wildlife

Most of the BLM exchange parcels in Chouteau County are in areas which have significant relief and fairly rugged terrain. A few of the parcels (HC013, HC018, HC019, HC030, and HC066) consist mostly of rollings hills. The big game species on these tracts consist mainly of mule deer and some pronghorn antelope. Upland game birds can be found on those parcels or portions of those parcels which have the rolling terrain. Sage grouse habitat is known to exist on parcels HC013, HC018, HC019, HC064, and HC068. Neotropical birds also utilize parcel HC068. Raptor usage may occur on parcels JC061, HC013, HC014, and HC015. Parcel JC061 also has crucial mule deer habitat on it.

### 3.1.6.3 Custer County Wildlife

There are two parcels of BLM land (MC34 and MC35) in Custer County. These tracts are located about ten miles west of Miles City, Montana.

MC34 consists of rolling prairie with western wheatgrass, blue grama, and big sagebrush on the ridges and western wheatgrass and silver sagebrush on the bottoms. Small mammals, birds, and an occasional deer or antelope utilize the tract. However, information from NRIS indicates a bald eagle nest along the Yellowstone River about five miles from this tract and as a result, it is likely the tract is utilized for foraging purposes by eagles.

Parcel MC35 consists of badlands with some alluvial flats. The badlands are sparsely vegetated with big sagebrush, skunkbrush sumac, yucca, and needle-and-thread grass. The alluvial flats are dominated by western wheatgrass and silver sagebrush. Deer, pronghorn antelope, coyote, and various species of birds utilize the tract. Two prairie dog colonies and a burrowing owl were observed on adjacent land but none were observed on this parcel even though there was suitable habitat for them. Information from NRIS indicates that there is a bald eagle nest along the Yellowstone River about seven miles from this tract and consequently, it is likely that they utilize the tract for foraging purposes.

### 3.1.6.4 Fergus County Wildlife

Many of the parcels in northern Fergus County (F004, F018, F019, F020, F021, F035, and F037) provide "breaks" habitat with ponderosa pine coulees, scattered sagebrush/grass flats, interspersed with barren clay slopes and knobs. Parcel F004 is located near the range utilized in that area by a local herd of big horn sheep. All of these parcels provide good habitat for mule deer and some are utilized by elk on an occasional basis even though those specific areas have not been designated as "elk habitat."

The remainder of the tracts in Fergus County are in terrain that varies from slightly broken to rolling. These tracts are located in a variety of vegetative types consisting of prairie grassland, ponderosa pine forest, and sagebrush/saltbush.

Parcel F114 is mostly forested land located in timbered foothills at the south end of the Judith Mountains about ten miles east of Lewistown, Montana. This forest vegetation consists primarily of ponderosa pine, Douglas fir and small patches of stunted aspen that are being taken over by the conifers. The tract has good habitat for elk, white-tailed deer, mule deer, and wild turkey. This parcel also provides habitat for blue grouse and many other forest dwelling animals and birds. Red-tailed hawks likely use the area as well as neotropical migrants. The tract has not been classified as crucial or critical habitat for any wildlife species.

Parcels F065 and F074 have minimal wildlife values. Pronghorn antelope were observed on parcels F095 and F174 and those same parcels also have sage grouse habitat.

### 3.1.6.5 Phillips County Wildlife

The BLM tracts in Phillips County consist of nineteen isolated parcels of BLM land intermixed with State and privately owned lands. Management to increase values for wildlife is limited due to the fractured land ownership pattern. The BLM exchange lands in the northern half of the County (P001, P002, P003, P004, P008, P009, P018, P022, P027, P059, P068, and P071) are dominated by the prairie grassland of the northern grassland vegetative type while the BLM exchange tracts in the southern half of the County (P108, P109, P110, P125, P130, P145, and P188) are primarily a mixed prairie vegetative type with sagebrush often being a significant species.

The usual wildlife common to eastern Montana utilize the areas in which the BLM tracts are located. Mule deer and pronghorn antelope are the most common big game species. These tracts do not provide critical habitat for any threatened or endangered species. Ten of the tracts have small reservoirs on them which are utilized by waterfowl on a seasonal basis. Prairie dogs are known to inhabit P108 and a pair of burrowing owls are located on P002. Sage Grouse habitat exists on Parcels P108 and P110. There are no known fisheries associated with these tracts.

According to information received from the Montana Natural Heritage Program, some BLM parcels (P001,

P002, P003, P004, P008, P009, P018, P022, P027, P068, P071, P108, P109, P110, and P130) have potential for swift fox(candidate for listing) habitat and some BLM parcels (P108, P109, P110, P130, P145, and P188) have potential for mountain plover(proposed threatened) habitat. However, even though these parcels may be within the general range of habitat for those species, none of those BLM parcels provide crucial habitat for either species.

### *3.1.6.6 Rosebud County Wildlife*

All of the BLM parcels in Rosebud County are located in an area immediately south of Forsyth. The majority of these tracts have badlands and "breaks-like" topography. Habitats on all of the tracts are typically dominated by ponderosa pine and rocky mountain juniper on steeper slopes with northern exposures. Skunkbrush sumac, yucca, bluebunch wheatgrass, and little bluestem are usually found growing in association with the pine/juniper habitat. Ridge tops predominately have western wheatgrass and big sagebrush. However, bluebunch wheatgrass, needle-and-thread grass, june grass, blue grass, and threadleaf sedge are also found growing in association with this habitat on the ridges. The southern exposures of the ridges are usually sparsely vegetated and dominated by big sagebrush, greasewood and bluebunch wheatgrass. Yucca, skunkbrush sumac, western wheatgrass, prairie sandgrass, and little bluestem could also be found in this habitat. Benches along major drainages are dominated by western wheatgrass and big sagebrush. Occasionally, scattered stands of greasewood can be found at these sites. Coulee bottoms are dominated by western wheatgrass and silver sagebrush. More mesic sites within this habitat are dominated by snowberry and rose, but for the most part, these two plant species have very limited distribution.

West Armells Creek flows through MC3/MC4 and East Armells Creek flows through MC12, however, both have limited riparian habitat and stream flows. These streams appear to be ephemeral and are quite narrow with low volume flows and with only a few deciduous trees in the riparian zone.

Most of the parcels have good to excellent mule deer habitat and many mule deer were observed during the site visits. The habitat in the general area of the parcels appeared to be capable of supporting five to ten mule deer per square mile. Parcel MC33 may be important mule deer winter range during severe winters due to its lower elevation and proximity to the Yellowstone River bottomlands.

There is significant pronghorn antelope habitat in the general area and thirty-eight pronghorn antelope were observed on thirteen different parcels during the field visits. Sharp-tailed grouse were observed at or adjacent to five of the parcels and most of the timbered breaks appear to be excellent grouse habitat, however, no leks were found on the tracts. Wild turkeys were found on or adjacent to parcels MC14 and MC16/MC17/MC18 and good turkey habitat exists on several other parcels. Very few raptors were observed in the area of the tracts.

The only sensitive species observed on the tracts were a loggerhead shrike on MC27 and black-tailed prairie dogs on MC12. Prairie dogs were observed adjacent to several of the parcels and a burrowing owl was observed in the area of these tracts. Parcels MC28, MC29, and MC30 have good sage grouse habitat. Parcel MC33/MC39 is about a mile from the Yellowstone River and it is likely that bald eagles utilize the tract for foraging purposes.

### *3.1.6.7 Valley County Wildlife*

Overall, the lands within Valley County are dominated by grasslands and most of the BLM exchange parcels are in the Northern Grassland vegetative type, except for Parcels V000 and V037. Big sagebrush and silver sagebrush generally do not grow in the areas where these tracts are located except on an occasional basis. Shrubs and trees are also commonly absent from these sites. The usual wildlife common to eastern Montana could be expected to use these BLM tracts. Mule deer and pronghorn antelope are the most common big game species with an occasional white-tailed deer. Coyotes are common furbearers. Sharp-tailed grouse and gray partridge are the small game bird species of this area. Ring-necked pheasants, turkeys and sage grouse would be unusual. Mourning doves would be commonplace migratory upland game birds. Northern harriers and American kestrels are the typical raptors. For the other

nongame and neotropical migratory birds, horned larks and western meadowlarks would be the most abundant species. Vesper sparrows and chestnut-collared longspurs would be common.

These tracts do not provide critical habitat for any threatened or endangered species. However, some of the tracts (V015 and V032) have habitat conducive to use by Baird's sparrow which is a BLM sensitive species. No fisheries are associated with these tracts.

Parcel V000 is located in the extreme southwestern portion of the County in the area of the Missouri River Breaks. Elk, mule deer, and other non-game species utilize the tract on a regular basis. The tract is also utilized by Bald Eagles for winter foraging activities.

Parcel V037 is located on a bench above the Milk River and straddles the railroad tracks and an adjacent road near Vandalia, Montana. There is extensive agricultural development and use on adjacent private lands. A small portion of this tract appears to also have had some past agricultural use on it. Ring-necked pheasants and other non-game species are the common form of wildlife found on the tract.

Parcel V073 is near residential development and as a result has limited wildlife use.

### *3.1.6.8 Meagher County Wildlife*

The BLM exchange land in Meagher County consists of two small tracts located about twenty-four miles east of White Sulphur Springs in the rolling foothills of the Little Belt Mountains. Several antelope were seen on Parcel M102 and Parcel M101 also has good antelope habitat. Deer likely also utilize these tracts occasionally.

### *3.1.6.9 Hill County Wildlife*

There are three small parcels located in Hill County. These parcels consist of prairie grasslands with mostly flat to rolling terrain. Parcel H011 is grassland surrounded by dry cropland and Parcel H001, which is located adjacent to the U.S.- Canadian border, has dry cropland on the U.S. side and grassland on the Canadian side. There is limited wildlife use of these parcels by birds, pronghorn antelope, and occasional deer.

### *3.1.6.10 Madison County Wildlife*

The parcel in Madison County actually consists of eight small tracts of BLM land scattered among private (See Figure 2-24) land which has been subdivided for residential use in the area of North Meadow Creek about twelve miles northwest of Ennis, Montana. Many houses already exist in the immediate area of the tracts and more are being constructed. Consequently, due to the small size of the BLM tracts and the extensive development which is occurring, there is very little wildlife usage of those tracts except by local species of birds, possibly rabbits, small rodents, and an occasional deer.

### *3.1.6.11 Threatened and Endangered Species*

None of the BLM lands have been identified as specifically providing crucial or critical habitat for any species which are currently listed as threatened or endangered. However, a review by the Montana Natural Heritage Program, indicates that some of the BLM lands are near or within the habitat range of certain species that are being considered for official designation under the Endangered Species Act (ESA). For example, the swift fox (*Vulpes velox*) is listed as a "candidate" species, but has not yet been listed. There is a known population (estimated at four breeding pairs) and at least 41 confirmed sightings of swift fox in a broad area mostly north of the Milk River between Chinook and Hinsdale and extending into Canada. The BLM exchange lands within northern Blaine County and northern Phillips County are within this general area.

The interior population of the mountain plover (*Charadrius montanus*) is a proposed threatened species that migrates each spring to northern Montana. Mountain plovers arrive in early April and stay until about September. Their habitat consists of a large expanse of short-grass prairie in an area

generally north, east, and west of the Fort Belknap Indian Reservation. Sightings of the mountain plover are generally associated with prairie dog towns. Even though some of the BLM parcels are within the general habitat range of the mountain plover, it is not believed that those tracts provide critical habitat for the mountain plover.

## 3.1.7 Recreation

Most of the BLM lands probably receive some amount of recreational use, particularly those adjacent to roads providing public access. However, none of the BLM lands stand out as being particularly significant from the recreation perspective. Many tracts have scattered stands of coniferous trees which allow for a greater variety of recreational pursuits. However, most of the parcels do not have legal access to them and this, along with their scattered isolated location relative to other public land, significantly reduces the potential for public recreation on those tracts. Most of the BLM tracts are far enough from population centers to be removed from all but occasional recreational use, which probably would occur only during hunting season.

## 3.1.8 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that federally funded projects be evaluated for the effects on historic and cultural properties included in, or eligible for, listing in the National Register of Historic Places. Land exchanges have been defined by 36 CFR 800.9.b.5, as one of those activities which can have an "adverse effect" on archaeological and historical sites. Consequently, a Class III cultural resources inventory was completed on all of the BLM tracts and consultation with the Montana State Historic Preservation Office has also been completed. None of the BLM parcels have significant cultural sites on them which would be adversely affected by the conveyance of the those parcels out of federal ownership.

## 3.1.9 Access

Most of the BLM tracts do not have legal public road access nor are they adjacent to other public lands (federal or state) which have public access. This is due to the fact that the BLM lands are primarily small in size and are scattered and isolated relative to other public lands. Ninety-five parcels, or about 73 percent, have no legal public access to them. Six parcels have walk-in access or primitive road access from adjacent public lands. Some BLM tracts may link corner-to-corner with other State or federal lands, but this corner-to-corner spatial relationship is not considered public access. Twenty-eight parcels have a county road or a highway which provides access to them or to portions of them. Table 3-7 summarizes access to the BLM lands.

| Table 3-7 Access to BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | | |
|---|---|---|---|---|
| Parcel No. | County | Access | Highway/County Rd. | Walk-in |
| JC-039 | Chouteau | No | | |
| JC-040 | Chouteau | No | | |
| JC-064 | Chouteau | No | | |
| JC-061 | Chouteau | No | | |
| F-004 | Fergus | No | | |
| F-018 | Fergus | No | | |
| F-019 | Fergus | No | | |
| F-020 | Fergus | No | | |
| F-021 | Fergus | No | | |
| F-035 | Fergus | No | | |
| F-037 | Fergus | No | | |
| F-065 | Fergus | No | | |
| F-074 | Fergus | Yes | Yes | |
| F-095 | Fergus | No | | |
| F-114 | Fergus | No | | |
| F-174 | Fergus | No | | |
| M-101 | Meagher | Yes | No | Yes |
| M-102 | Meagher | No | | |
| P-001 | Phillips | Yes | Yes | |
| P-002 | Phillips | Yes | Yes | |
| P-003 | Phillips | Yes | Yes | |
| P-004 | Phillips | No | | |
| P-008 | Phillips | No | | |
| P-009 | Phillips | No | | |
| P-018 | Phillips | Yes | Yes | |
| P-022 | Phillips | Yes | Yes | |
| P-027 | Phillips | No | | |
| P-059 | Phillips | Yes | Yes | |
| P-068 | Phillips | No | | |
| P-071 | Phillips | No | | |
| P-108 | Phillips | Yes | Yes | |
| P-109 | Phillips | Yes | No | Yes |
| P-110 | Phillips | No | | |
| P-125 | Phillips | Yes | Yes | |
| P-130 | Phillips | Yes | Yes | |
| P-145 | Phillips | No | | |
| P-188 | Phillips | No | | |
| V-000 | Valley | Yes | Yes | |
| V-001 | Valley | Yes | Yes | |
| V-002 | Valley | Yes | Yes | |
| V-003 | Valley | No | | |
| V-015 | Valley | Yes | Yes | |
| V-032 | Valley | Yes | Yes | |
| V-037 | Valley | Yes | Yes | |

| Table 3-7 Access to BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | | |
|---|---|---|---|---|
| Parcel No. | County | Access | Highway/County Rd. | Walk-in |
| V-038 | Valley | Yes | Yes | |
| V-043 | Valley | Yes | Yes | |
| V-073 | Valley | Yes | Yes | |
| V-076 | Valley | No | | |
| B-002 | Blaine | No | | |
| B-004 | Blaine | No | | |
| B-005 | Blaine | Yes | Yes | |
| B-010 | Blaine | No | | |
| B-011 | Blaine | No | | |
| B-012 | Blaine | No | | |
| B-013 | Blaine | No | | |
| B-016 | Blaine | No | | |
| B-017 | Blaine | No | | |
| B-029 | Blaine | Yes | Yes | |
| B-030 | Blaine | Yes | No | Yes |
| B-035 | Blaine | No | | |
| B-036 | Blaine | No | | |
| B-037 | Blaine | No | | |
| B-038 | Blaine | No | | |
| B-039 | Blaine | No | | |
| B-040 | Blaine | No | | |
| B-041 | Blaine | No | | |
| B-042 | Blaine | No | | |
| B-065 | Blaine | No | | |
| B-092 | Blaine | Yes | No | Yes |
| B-096 | Blaine | No | | |
| B-143 | Blaine | No | | |
| B-157 | Blaine | No | | |
| B-189 | Blaine | Yes (portion) | Yes | |
| HC-004 | Chouteau | No | | |
| HC-007 | Chouteau | No | | |
| HC-008 | Chouteau | No | | |
| HC-012 | Chouteau | No | | |
| HC-013 | Chouteau | No | | |
| HC-014 | Chouteau | No | | |
| HC-015 | Chouteau | No | | |
| HC-018 | Chouteau | No | | |
| HC-019 | Chouteau | No | | |
| HC-020 | Chouteau | No | | |
| HC-022 | Chouteau | Yes | No | Yes |
| HC-024 | Chouteau | Yes | Yes | |
| HC-030 | Chouteau | No | | |
| HC-032 | Chouteau | No | | |
| HC-034 | Chouteau | No | | |

| Table 3-7 Access to BLM Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | | |
|---|---|---|---|---|
| Parcel No. | County | Access | Highway/County Rd. | Walk-in |
| HC-041 | Chouteau | No | | |
| HC-042 | Chouteau | No | | |
| HC-043 | Chouteau | No | | |
| HC-058 | Chouteau | No | | |
| HC-064 | Chouteau | No | | |
| HC-066 | Chouteau | No | | |
| HC-068 | Chouteau | Yes | No | Yes (Section 17) |
| H-001 | Hill | No | | |
| H-008 | Hill | No | | |
| H-011 | Hill | No | | |
| MC-1 | Rosebud | Yes | Yes | |
| MC-2 & MC-36 | Rosebud | No | | |
| MC-3 & MC-4 | Rosebud | No | | |
| MC-5 & MC-6 | Rosebud | No | | |
| MC-7 | Rosebud | Yes | Yes | |
| MC-8 | Rosebud | No | | |
| MC-9 | Rosebud | No | | |
| MC-10 | Rosebud | No | | |
| MC-11 | Rosebud | No | | |
| MC-12 | Rosebud | No | | |
| MC-13 | Rosebud | No | | |
| MC-14 | Rosebud | No | | |
| MC-15 & MC-38 | Rosebud | No | | |
| MC-16, MC-17 & MC-18 | Rosebud | No | | |
| MC-19 | Rosebud | No | | |
| MC-20 | Rosebud | Yes | Yes | |
| MC-21 | Rosebud | No | | |
| MC-22 | Rosebud | Yes | Yes | |
| MC-23 | Rosebud | No | | |
| MC-24 & MC-25 | Rosebud | No | | |
| MC-26 | Rosebud | No | | |
| MC-27 | Rosebud | No | | |
| MC-28 | Rosebud | No | | |
| MC-29 | Rosebud | No | | |
| MC-30 | Rosebud | No | | |
| MC-31 | Rosebud | Yes | Yes | |
| MC-32 | Rosebud | No | | |
| MC-33 & MC-39 | Rosebud | No | | |
| MC-34 | Custer | No | | |
| MC-35 | Custer | No | | |
| D-1 | Madison | No | | |

## 3.1.10 Socioeconomics

### *3.1.10.1 Timber and Grazing Revenue*

Parcels F114, F020, and F021 in Fergus County have timber stands, along with meadows and interspersed timber and grass that provide grazing. This timber has been cruised to determine whether the timber is merchantable and the volume and species of trees on the tracts. From the cruise information it was determined that the timber on Parcels F020 and F021 is not merchantable due to factors such as low volume, steep topography, the lack of other readily marketable timber in the immediate area, etc. However, the timber on Parcel F114 was determined to be merchantable. This forty acre parcel has about 25 acres of merchantable timber on it and the data from the cruise is as follows:

| | Ponderosa Pine | Douglas Fir | Parcel Total |
|---|---|---|---|
| Gross Cubic Feet | 34,414 | 1,543 | 35,958 |
| Net Cubic Feet | 26,471 | 1,389 | 27,860 |
| Gross Board Feet | 156,810 | 6,112 | 162,922 |
| Net Board Feet | 120,862 | 5,501 | 126,362 |

The value of the merchantable timber on Parcel F114 will be included in the overall fair market appraised value for that parcel.

The remainder of the BLM lands have either a grassland or sagebrush\grassland vegetative type suited to grazing. Many parcels are rated quite low for grazing capacity which is indicative of the sparse vegetative cover of these scattered and isolated tracts. Table 3-8 lists the estimated revenue generated from grazing authorizations by BLM. The revenue figures were generated by using the BLM minimum grazing fee and represent only one season of grazing. This grazing fee represents the lowest possible rate ($1.35/AUM) due to temporary conditions in the market.

Table 3-8 Grazing Revenue from BLM Phase IV CBSA Lands

| Parcel Number | County | Authorized AUM's | Acres | Grazing Revenue |
|---|---|---|---|---|
| JC-039 | Chouteau | 4 | 40.00 | $5.40 |
| JC-040 | Chouteau | 3 | 40.00 | $4.05 |
| JC-064 | Chouteau | 3 | 40.00 | $4.05 |
| JC-061 | Chouteau | 8 | 80.00 | $10.80 |
| F-004 | Fergus | 5 | 40.00 | $6.75 |
| F-018 | Fergus | 27 | 120.00 | $36.45 |
| F-019 | Fergus | 42 | 320.88 | $56.70 |
| F-020 | Fergus | 12 | 80.00 | $16.20 |
| F-021 | Fergus | 42 | 240.00 | $56.70 |
| F-035 | Fergus | 27 | 120.00 | $36.45 |
| F-037 | Fergus | 14 | 80.00 | $18.90 |
| F-065 | Fergus | 10 | 40.00 | $13.50 |
| F-074 | Fergus | 7 | 40.00 | $9.45 |
| F-095 | Fergus | 103 | 80.00 | $139.05 |
| F-114 | Fergus | 0 | 40.00 | 0 |

| Table 3-8 Grazing Revenue from BLM Phase IV CBSA Lands | | | | |
|---|---|---|---|---|
| Parcel Number | County | Authorized AUM's | Acres | Grazing Revenue |
| F-174 | Fergus | 31 | 160.00 | $41.85 |
| M-101 | Meagher | 6 | 40.00 | $8.10 |
| M-102 | Meagher | 20 | 80.00 | $27.00 |
| P-001 | Phillips | 2 | 80.00 | $2.70 |
| P-002 | Phillips | 89 | 332.29 | $120.15 |
| P-003 | Phillips | 41 | 160.00 | $55.35 |
| P-004 | Phillips | 36 | 160.00 | $48.60 |
| P-008 | Phillips | 10 | 119.27 | $13.50 |
| P-009 | Phillips | 73 | 320.00 | $98.55 |
| P-018 | Phillips | 37 | 160.00 | $49.95 |
| P-022 | Phillips | 38 | 160.00 | $51.30 |
| P-027 | Phillips | 6 | 40.36 | $8.10 |
| P-059 | Phillips | 9 | 80.00 | $12.15 |
| P-068 | Phillips | 8 | 40.00 | $10.80 |
| P-071 | Phillips | 71 | 319.99 | $95.85 |
| P-108 | Phillips | 170 | 1160.00 | $229.50 |
| P-109 | Phillips | 21 | 120.00 | $28.35 |
| P-110 | Phillips | 68 | 360.00 | $91.80 |
| P-125 | Phillips | 340 | 1120.00 | $459.00 |
| P-130 | Phillips | 234 | 920 | $315.90 |
| P-145 | Phillips | 22 | 160.00 | $29.70 |
| P-188 | Phillips | 20 | 80.00 | $27.00 |
| V-000 | Valley | 10 | 80.00 | $13.50 |
| V-001 | Valley | 46 | 320.00 | $62.10 |
| V-002 | Valley | 23 | 160.00 | $31.05 |
| V-003 | Valley | 30 | 160.00 | $40.50 |
| V-015 | Valley | 52 | 160.00 | $70.20 |
| V-032 | Valley | 52 | 240.00 | $70.20 |
| V-037 | Valley | 0 | 40.00 | 0 |
| V-038 | Valley | 90 | 478.07 | $121.50 |
| V-043 | Valley | 63 | 457.95 | $85.05 |
| V-073 | Valley | 73 | 320.00 | $98.55 |
| V-076 | Valley | 39 | 337.66 | $52.65 |
| B-002 | Blaine | 10 | 40.00 | $13.50 |
| B-004 | Blaine | 9 | 39.10 | $12.15 |
| B-005 | Blaine | 9 | 34.58 | $12.15 |
| B-010 | Blaine | 14 | 80.00 | $18.90 |
| B-011 | Blaine | 15 | 80.00 | $20.25 |
| B-012 | Blaine | 48 | 120.00 | $64.80 |
| B-013 | Blaine | 13 | 80.00 | $17.55 |
| B-016 | Blaine | 10 | 40.00 | $13.50 |
| B-017 | Blaine | 8 | 40.00 | $10.80 |
| B-029 | Blaine | 11 | 40.00 | $14.85 |

| Table 3-8 Grazing Revenue from BLM Phase IV CBSA Lands | | | | |
|---|---|---|---|---|
| Parcel Number | County | Authorized AUM's | Acres | Grazing Revenue |
| B-030 | Blaine | 11 | 40.00 | $14.85 |
| B-035 | Blaine | 13 | 77.06 | $17.55 |
| B-036 | Blaine | 10 | 40.00 | $13.50 |
| B-037 | Blaine | 24 | 80.00 | $32.40 |
| B-038 | Blaine | 24 | 80.00 | $32.40 |
| B-039 | Blaine | 5 | 40.00 | $6.75 |
| B-040 | Blaine | 6 | 40.00 | $8.10 |
| B-041 | Blaine | 7 | 40.00 | $9.45 |
| B-042 | Blaine | 9 | 40.00 | $12.15 |
| B-065 | Blaine | 11 | 80.00 | $14.85 |
| B-092 | Blaine | 88 | 320.00 | $118.80 |
| B-096 | Blaine | 30 | 160.00 | $40.50 |
| B-143 | Blaine | 0 | 40.00 | 0 |
| B-157 | Blaine | 6 | 40.00 | $8.10 |
| B-189 | Blaine | 0 | 234.96 | 0 |
| HC-004 | Chouteau | 12 | 80.00 | $16.20 |
| HC-007 | Chouteau | 33 | 120.00 | $44.55 |
| HC-008 | Chouteau | 11 | 40.00 | $14.85 |
| HC-012 | Chouteau | 11 | 40.00 | $14.85 |
| HC-013 | Chouteau | 9 | 40.00 | $12.15 |
| HC-014 | Chouteau | 9 | 39.96 | $12.15 |
| HC-015 | Chouteau | 9 | 40.00 | $12.15 |
| HC-018 | Chouteau | 6 | 80.00 | $8.10 |
| HC-019 | Chouteau | 7 | 34.47 | $9.45 |
| HC-020 | Chouteau | 10 | 40.00 | $13.50 |
| HC-022 | Chouteau | 7 | 40.00 | $9.45 |
| HC-024 | Chouteau | 6 | 40.00 | $8.10 |
| HC-030 | Chouteau | 10 | 40.00 | $13.50 |
| HC-032 | Chouteau | 8 | 40.00 | $10.80 |
| HC-034 | Chouteau | 17 | 120.00 | $22.95 |
| HC-041 | Chouteau | 9 | 40.00 | $12.15 |
| HC-042 | Chouteau | 8 | 40.00 | $10.80 |
| HC-043 | Chouteau | 9 | 40.00 | $12.15 |
| HC-058 | Chouteau | 12 | 125.78 | $16.20 |
| HC-064 | Chouteau | 90 | 360.00 | $121.50 |
| HC-066 | Chouteau | 7 | 28.84 | $9.45 |
| HC-068 | Chouteau | 64 | 440.00 | $86.40 |
| H-001 | Hill | 32 | 114.04 | $43.20 |
| H-008 | Hill | 0 | 31.64 | 0 |
| H-011 | Hill | 0 | 40.00 | 0 |
| MC-1 | Rosebud | 71 | 353.96 | $95.85 |
| MC-2 & MC-36 | Rosebud | 128 | 640.60 | $172.80 |
| MC-3 & MC-4 | Rosebud | 27 | 155.85 | $36.45 |

| Table 3-8 Grazing Revenue from BLM Phase IV CBSA Lands | | | | |
|---|---|---|---|---|
| Parcel Number | County | Authorized AUM's | Acres | Grazing Revenue |
| MC-5 & MC-6 | Rosebud | 62 | 320.00 | $83.70 |
| MC-7 | Rosebud | 7 | 36.15 | $9.45 |
| MC-8 | Rosebud | 59 | 280.00 | $79.65 |
| MC-9 | Rosebud | 122 | 624.64 | $164.70 |
| MC-10 | Rosebud | 65 | 320.25 | $87.75 |
| MC-11 | Rosebud | 24 | 120.00 | $32.40 |
| MC-12 | Rosebud | 39 | 320.15 | $52.65 |
| MC-13 | Rosebud | 15 | 80.00 | $20.25 |
| MC-14 | Rosebud | 8 | 44.65 | $10.80 |
| MC-15 & MC-38 | Rosebud | 43 | 320.00 | $58.05 |
| MC-16, MC-17, & MC-18 | Rosebud | 75 | 320.28 | $101.25 |
| MC-19 | Rosebud | 7 | 40.00 | $9.45 |
| MC-20 | Rosebud | 5 | 40.00 | $6.75 |
| MC-21 | Rosebud | 41 | 240.00 | $55.35 |
| MC-22 | Rosebud | 6 | 40.00 | $8.10 |
| MC-23 | Rosebud | 6 | 40.00 | $8.10 |
| MC-24 & MC-25 | Rosebud | 64 | 320.00 | $86.40 |
| MC-26 | Rosebud | 58 | 640.00 | $78.30 |
| MC-27 | Rosebud | 31 | 160.00 | $41.85 |
| MC-28 | Rosebud | 45 | 326.54 | $60.75 |
| MC-29 | Rosebud | 38 | 326.58 | $51.30 |
| MC-30 | Rosebud | 7 | 40.00 | $9.45 |
| MC-31 | Rosebud | 7 | 40.00 | $9.45 |
| MC-32 | Rosebud | 100 | 640.00 | $135.00 |
| MC-33 & MC-39 | Rosebud | 67 | 320.00 | $90.45 |
| MC-34 | Custer | 7 | 40.00 | $9.45 |
| MC-35 | Custer | 29 | 320.00 | $39.15 |
| D-1 | Madison | 0 | 87.35 | 0 |
| Total | | 4187 | 21,965.90 | $5652.45 |

Grazing receipts overall to the BLM would decrease $5652.45 if all of the BLM tracts were exchanged into private ownership. All of the affected Counties in which the BLM lands are located would stand to lose somewhat in the area of grazing fees since all, except seven, of the BLM parcels generate revenue from permits for livestock grazing. This is because a portion of all of the grazing fees from BLM lands are returned to the State of Montana who then shares them with the Counties in which those fees originated. The amount of grazing fees returned to the State is 12 1/2% of fees collected within a grazing district and 50% of fees collected on land outside a grazing district. The BLM lands within a grazing district are those lands which are managed per section 3 of the Taylor Grazing Act. BLM lands outside of a grazing district are those lands which are managed per Section 15 of the Taylor Grazing Act.

### *3.1.10.2 Payment in Lieu of Taxes and Property Taxes*

Payment in Lieu of Taxes(PILT) is a program which compensates state and county governments for federal lands which cannot be assessed a property tax by the Counties in which those lands are located. PILT is computed utilizing two different formulas based upon the population and other factors in those counties where the public lands are located. However, the PILT program has to be funded each year by Congress and it is not automatically funded at the same rate each year. The PILT payments discussed in this section are based on an estimation for payments in the year 2001.

The BLM lands being considered for use in this exchange are located in Chouteau, Fergus, Meagher, Phillips, Valley, Blaine, Hill, Rosebud, Custer, and Madison Counties. The potential effect on PILT payments to each of those Counties, if all of the BLM land in those counties was conveyed, is shown in the data provided below. Table 3-9 provides a summary of the estimated change or reduction in the 2001 PILT payments for each county.

Estimated 2001 PILT Payments before Exchange

| County | Entitlement Acres | Prior Year Payments | Population | Ceiling | Ceiling in Effect? | Alternative A | Alternative B | Estimated Payment | Proration | Actual Payment |
|---|---|---|---|---|---|---|---|---|---|---|
| Blaine | 453,464 | $89,498 | 7,000 | $793,316 | Yes | $703,818 | $117,901 | $703,818 | 0.61 | $429,329 |
| Chouteau | 157,932 | $15,442 | 5,000 | $642,617 | No | $289,367 | $41,062 | $289,367 | | $176,514 |
| Custer | 338,890 | $10,996 | 12,000 | $1,023,532 | No | $643,062 | $88,111 | $643,062 | | $392,268 |
| Fergus | 489,533 | $44,325 | 12,000 | $1,023,532 | No | $900,474 | $127,279 | $900,474 | | $549,289 |
| Hill | 47,790 | $574 | 17,000 | $1,271,226 | No | $91,661 | $12,425 | $91,661 | | $55,913 |
| Madison | 1,051,745 | $69,556 | 7,000 | $793,316 | Yes | $723,760 | $273,454 | $723,760 | | $441,494 |
| Meagher | 483,883 | $158,087 | 1,797 | $230,957 | Yes | $72,870 | $125,810 | $125,810 | | $76,744 |
| Phillips | 1,387,265 | $156,157 | 4,821 | $619,611 | Yes | $463,454 | $360,689 | $463,454 | | $282,707 |
| Rosebud | 329,949 | $11,738 | 10,000 | $899,602 | No | $625,064 | $85,787 | $625,064 | | $381,289 |
| Valley | 1,122,988 | $35,596 | 8,000 | $841,222 | Yes | $805,626 | $291,977 | $805,626 | | $491,432 |

Estimated 2001 PILT Payments after Exchange

| County | Change in BLM Acreage | Entitlement Acres | Prior Year Payments | Population | Ceiling | Ceiling in Effect? | Alternative A | Alternative B | Estimated Payment | Proration | Actual Payment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blaine | (1,946) | 451,518 | $89,498 | 7,000 | $793,316 | Yes | $703,818 | $117,395 | $703,818 | 0.61 | $429,329 |
| Chouteau | (2,109) | 155,823 | $15,442 | 5,000 | $642,617 | No | $285,296 | $40,514 | $285,296 | | $174,031 |
| Custer | (360) | 338,530 | $10,996 | 12,000 | $1,023,532 | No | $642,367 | $88,018 | $642,367 | | $391,844 |
| Fergus | (1,360) | 488,173 | $44,325 | 12,000 | $1,023,532 | No | $897,849 | $126,925 | $897,849 | | $547,688 |
| Hill | (186) | 47,604 | $574 | 17,000 | $1,271,226 | No | $91,302 | $12,377 | $91,302 | | $55,694 |
| Madison | (87) | 1,051,658 | $69,556 | 7,000 | $793,316 | Yes | $723,760 | $273,431 | $723,760 | | $441,494 |
| Meagher | (120) | 483,763 | $158,087 | 1,797 | $230,957 | Yes | $72,870 | $125,778 | $125,778 | | $76,725 |
| Phillips | (5,892) | 1,381,373 | $156,157 | 4,821 | $619,611 | Yes | $463,454 | $359,157 | $463,454 | | $282,707 |
| Rosebud | (7,152) | 322,797 | $11,738 | 10,000 | $899,602 | No | $611,260 | $83,927 | $611,260 | | $372,869 |
| Valley | (2,754) | 1,120,234 | $35,596 | 8,000 | $841,222 | Yes | $805,626 | $291,261 | $805,626 | | $491,432 |

From the information provided above, a summary of the estimated change in the 2001 PILT payments for each affected County, where BLM land would be conveyed into private ownership, is provided in Table 3-9.

| Table 3-9 Potential Change in PILT Payments Due to Phase IV Exchange | | | |
|---|---|---|---|
| County | Acres Proposed for Conveyance | Percentage of Change in PILT Payment | Amount of Reduction in PILT Payment |
| Chouteau | 2109.05 | -1.4% | $2,483.00 |
| Fergus | 1360.88 | -0.3% | $1,601.00 |
| Meagher | 120.00 | 0.0% | $19.00 |
| Phillips | 5891.91 | 0.0% | 0 |
| Valley | 2753.68 | 0.0% | 0 |
| Blaine | 1945.70 | 0.0% | 0 |
| Hill | 185.68 | -0.4% | $219.00 |
| Rosebud | 7151.65 | -2.2% | $8,420.00 |
| Custer | 360.00 | -0.1% | $424.00 |
| Madison | 87.35 | 0.0% | 0 |

Once the BLM lands are transferred into private ownership, they will then be subject to property taxes. The revenue collected as property taxes on this land will help to offset a loss that may occur in PILT payments to the affected counties. See Table 3-10 below for the estimated increase in property taxes if all of the BLM lands were utilized in the exchange.

| Table 3-10 Estimated Increase in Property Taxes after Exchange | | | | | | |
|---|---|---|---|---|---|---|
| County | School District | Deeded Acres | Avg G4 Mkt Value | Taxable Rate | Mill Levy | Estimated Tax |
| Big Horn | 2 | -7,424.05 | – | – | – | -$5,622 |
| Blaine | 14 | 597.06 | $26.51 | 0.03627 | 328.513 | $189 |
| | 24 | 160.00 | | | 292.623 | $45 |
| | R12 | 114.58 | | | 372.133 | $41 |
| | 43/35 | 154.96 | | | 399.073 | $59 |
| | R10 | 319.10 | | | 411.523 | $126 |
| | 17 | 560.00 | | | 342.533 | $184 |
| | 12/17 | 40.00 | | | 353.833 | $14 |
| | | 1,945.70 | | | | $658 |
| Chouteau | 28G | 80.00 | | | 444.23 | $34 |
| | 44B | 40.00 | | | 335.06 | $13 |
| | 44 | 80.00 | | | 337.92 | $26 |
| | 11 | 1,263.31 | | | 357.07 | $433 |
| | 1 | 365.78 | | | 460.67 | $162 |
| | 26 | 279.96 | | | 319.71 | $86 |
| | | 2,109.05 | | | | $754 |

Table 3-10 Estimated Increase in Property Taxes after Exchange

| County | School District | Deeded Acres | Avg G4 Mkt Value | Taxable Rate | Mill Levy | Estimated Tax |
|---|---|---|---|---|---|---|
| Custer | 63 | 360.00 | | | 440.24 | $152 |
| Fergus | 115 | 680.88 | | | 426.02 | $279 |
| | 84F | 320.00 | | | 392.25 | $121 |
| | 74RF | 280.00 | | | 404.22 | $109 |
| | 27CH | 40.00 | | | 372.55 | $14 |
| | 1 | 40.00 | | | 404.96 | $16 |
| | | 1,360.88 | | | | $539 |
| Hill | H88C | 71.64 | | | 371.60 | $26 |
| | A57H | 114.04 | | | 312.87 | $34 |
| | | 185.68 | | | | $60 |
| Madison | 27 | 87.35 | | | 300.29 | $25 |
| Meagher | 8O | 120.00 | | | 362.95 | $42 |
| Phillips | 2R | 120.00 | | | 392.91 | $45 |
| | 12R | 320.00 | | | 305.31 | $94 |
| | 14R | 3,920.00 | | | 426.04 | $1,606 |
| | 14A | 320.00 | | | 421.20 | $130 |
| | 14D | 319.99 | | | 423.40 | $130 |
| | 20D | 891.92 | | | 313.49 | $269 |
| | | 5,891.91 | | | | $2,274 |
| Rosebud | 19 | 3,653.60 | | | 169.77 | $596 |
| | 12 | 3,178.05 | | | 282.55 | $863 |
| | 4 | 320.00 | | | 298.28 | $92 |
| | | 7,151.65 | | | | $1,552 |
| Valley | 9 | 800.00 | | | 377.77 | $291 |
| | 7 | 1,074.36 | | | 304.93 | $315 |
| | 5 | 479.32 | | | 293.97 | $135 |
| | 1 | 400.00 | | | 360.74 | $139 |
| | | 2,753.68 | | | | $880 |
| Yellowstone | 02 | -4,261.88 | – | – | – | -$3,982 |

Source: MT Dept of Revenue (county offices), 2001. Assumptions for estimates: Land use would not change, public lands disposed of would be rated G4 grazing land, and tax rates would be based on 2001 values for mill levies, taxable rate, and average G4 market value.

### 3.1.10.3 Land Values

All of the BLM lands will be appraised to determine their fair market value. The value of any lessee improvements will be considered when determining the overall land value prior to disposal of the parcel. There is one BLM tract (F114) which has merchantable timber on it and the value of that timber will be included in the final appraised value of that parcel. The remainder of the tracts are currently utilized as grazing land and will reflect the value of similar rangeland in those areas unless there is public road access to the BLM tracts which may then increase the appraised value depending upon the amount of residential development in that specific area and the comparable sales of similar land in that area with public road access.

The BLM lands and the private lands must be appraised to determine their fair market value. It is expected the appraisal process will be completed during the summer of 2001. After completion of the Environmental Assessment and appraisal processes, then the Notice of Decision, which is BLM's final decision regarding the exchange, can be issued. Values of all tracts to be utilized must be included in the Notice of Decision. The Notice of Decision will be sent to all interested parties such as grazing lessees, right-of-way holders, etc. as well as published in local newspapers of general circulation in the area where the lands are located in order to provide for public review and comment. A competitive process will not be utilized in regards to the conveyance of any of the BLM tracts. The grazing lessee and/or the adjacent landowner will be offered the opportunity to acquire the parcels at the appraised fair market value. If any of the tracts are to be offered under a competitive process, they must be utilized under the auspices of the "Baca Bill" whereby funds from BLM tracts so offered are deposited into an account for possible use by any Interior agency in acquiring land within wilderness areas, along Wild and Scenic Rivers, or other such high priority programs. In other words, any BLM tract offered competitively will not be available for use in this Phase 4 land exchange.

### 3.1.10.4 Land Use Authorizations

Other than authorization for livestock grazing, the only other use authorizations on the BLM tracts are for rights-of-way. There are 22 right-of-way authorizations which affect 23 of the BLM parcels being considered for disposal. These right-of-way grants are for different types of uses including roads, transmission lines, underground telephone cables, oil and gas pipelines, and highways. The following table delineates which BLM parcels are affected by these authorizations, the type of use for the right-of-way, and the name of the right-of-way holder. Some of these authorizations, such as for highways and county roads, are perpetual grants while others have a term for a specific number of years which means their authorization may expire sometime after the land has been conveyed out of federal ownership.

| Table 3-11 Rights-of-Way Issued on Phase IV BLM Tracts | | | | |
|---|---|---|---|---|
| Parcel No. & Legal Description | County | Serial # | Use | Issued To |
| F074<br>T18N, R22E, Sec. 3: SENW | Fergus | M049342 | Telephone Cable | Mid-Rivers Tel Coop |
| F121<br>T15N, R22E, Sec. 1: Lots 2, 5, 6, SWNE, NESW, NWSE T15N, R23E,<br>Sec. 6: Lots 5 and 6 | Fergus | M043846<br>M58077 | Pipeline<br>Electric Trans. Line | Corps of Engineers<br>Fergus Electric Coop |
| M101<br>T9N, R11E, Sec. 8: SESE | Meagher | MTM89881 | Road | David & Christine Raschke |
| P003<br>T37N, R32E, Sec. 23: NW | Phillips | M29897 | Pipeline | Northern Border Pipeline Company |
| P004<br>T37N, R33E, Sec. 19: NE | Phillips | M57527 | Electric Trans. Line | Big Flat Electric Coop |
| P009<br>T35N, R34E, Sec. 32: E2 | Phillips | M57527 | Electric Trans. Line | Big Flat Electric Coop |
| P018<br>T34N, R29E, Sec. 17: NE | Phillips | M39347 | Telephone Cable | Triangle Tel. Coop |
| P059<br>T33N, R27E, Sec. 27: NESE, SWSW | Phillips | M57527 | Electric Trans. Line | Big Flat Electric Coop |
| P108<br>T29N, R29E, Sec. 2: S2SW<br>Sec. 11: All<br>Sec. 14: N2N2, SWNW<br>Sec. 15: S2NE, SE | Phillips | MTM78772<br>M57527<br>M42864 | Road<br>Electric Trans. Line<br>Telephone Cable | Phillips County<br>Big Flat Electric Coop<br>Triangle Tel. Coop |
| P109<br>T29N, R29E, Sec. 15: E2SW<br>Sec. 22: NWNE | Phillips | M57527<br>M42864 | Electric Trans. Line<br>Telephone Cable | Big Flat Electric Coop<br>Triangle Tel. Coop |
| P130<br>T28N, R29E, Sec. 28: W2<br>Sec. 29: NENW<br>Sec. 33: E2NW, S2<br>Sec. 34: NE | Phillips | M42864 | Telephone Cable | Triangle Tel. Coop |
| V037<br>T30N, R37E, Sec. 15: SWSW | Valley | MTM60025<br>MTM28895 | Electric Trans. Line<br>Telephone Cable | Valley Electric Coop<br>Valley Rural Tel Coop |
| V043<br>T31N, R34E, Sec. 25: S2S2, NWSW<br>T31N, R35E, Sec. 31: Lots 3, 4, and 5, SE NW,SWSE<br>T30N, R35E, Sec. 6: Lot 14 | Valley | M43913 | Pipeline | Williston Basin Pipeline Company |
| V073<br>T26N, R40E, Sec. 14: N2NE, NW, W2SW | Valley | M60025<br>M28895<br>M37824 | Electric Trans. Line<br>Telephone Cable<br>Road | Valley Electric Coop<br>Valley Rural Tel Coop<br>Valley County |
| V076<br>T30N, R35E, Sec. 4: Lots 5, 6, and 7<br>Sec. 5: Lots 3 and 4<br>T31N, R35E, Sec. 32: Lot 3, NESW, N2SE | Valley | M43913-A | Pipeline | Williston Basin Pipeline Company |
| B005<br>T32N, R22E, Sec. 6: Lot 4 | Blaine | M020631<br>MTM73489 | Highway<br>Telephone Cable | Mt Dept. of Transp.<br>Triangle Tel Coop |

| Table 3-11 Rights-of-Way Issued on Phase IV BLM Tracts | | | | |
|---|---|---|---|---|
| Parcel No. & Legal Description | County | Serial # | Use | Issued To |
| B029<br>T29N, R21E, Sec. 24: SESW | Blaine | M40972 | Telephone Cable | Triangle Tel Coop |
| B037<br>T28N, R21E, Sec. 17: NWSW<br>Sec. 18: NESE | Blaine | M59070<br>M40972 | Electric Trans Line<br>Telephone Cable | Hill Co. Electric Coop<br>Triangle Tel. Coop |
| B189<br>T31N, R25E, Sec. 6: SWSE<br>Sec. 8: NWNW<br>Sec. 21: Lots 2 and 5<br>Sec. 23: Lot 4<br>Sec. 26: Lots 1 and 6<br>Sec. 27: Lot 1<br>Sec. 28: Lot 1 | Blaine | M66581<br>M73489 | Comm. Site<br>Telephone Cable | Central MT Comm.<br>Triangle Tel Coop |
| HC024<br>T26N, R17E, Sec. 4: SESW | Chouteau | M61189<br>M59070 | Electric Trans Line<br>Electric Trans Line | Hill Co. Electric Coop<br>Hill Co. Electric Coop |
| HC030<br>T24N, R16E, Sec. 17: NENW | Chouteau | M59069 | Telephone Cable | Triangle Tel. Coop |
| HC068<br>T23N, R15E, Sec. 17: SENW, SWNE<br>Sec. 21: N2N2, SWNW<br>Sec. 22: NWSE<br>Sec. 23: E2SW<br>Sec. 25: NENW<br>Sec. 26: S2SE, E2SW | Chouteau | M59070 | Electric Trans. Line | Hill Co. Electric Coop |
| H001<br>T37N, R11E, Sec. 2: Lots 5, 6, 7, and 8, SWNE | Hill | MTM85484 | Pipeline | Express PPLN Partner |

## 3.1.11 Hydrologic and Soil Resources

Two BLM parcels (B189 and V043) have perennial streams adjacent to or through them. Two other parcels (MC3/MC4 and MC12) are crossed by streams (West Fork Armells Creek and East Fork Armells Creek) which were flowing during the site visits in May of 2000, but on the USGS topographical maps these streams are shown as being ephemeral and consequently, it is likely that these streams "dry up" later in the fall during dry years. Table 3-12 lists these BLM parcels and the approximate mileage of those streams which cross them. The table also indicates if the stream or river is considered navigable and if it is accessible from a public access point adjacent to the parcel. In addition, there are many miles of intermittent drainages on the BLM lands, which may have water flow in them at certain times of the year. Also there are stock water dams on many parcels (See Water Rights). Most of the stock reservoirs are not large enough or reliable enough to support fisheries, but they do provide habitat for aquatic life adapted to prairie ponds and waterfowl.

| Table 3-12 BLM Lands crossed by Perennial Streams in the Phase IV Exchange | | | | |
|---|---|---|---|---|
| BLM Parcel | Stream | Miles on Parcel | Navigable Stream | Public Access |
| V-043 | Beaver Creek | .25 | No | Yes |
| B-189 | Milk River | 1.25 (not continuous) | No | No |
| MC-3/MC-4 | West Fk Armells Crk | .25 | No | No |
| MC-12 | East Fk Armells Crk | .10 | No | No |

While there may be a thin veneer of alluvial (water deposited) soils along some streams, soils generally have developed *in situ* over the underlying geologic materials. These parent materials, along with climate, vegetation, relief, and time are the primary factors that have led to soil formation.[12] Table 3-12 shows the general soils types expected at each tract, based on a soils map of Montana developed by the USDA Soil Conservation Service, Montana Agricultural Experiment Station, and Montana State University.

| Table 3-13 General Soils for BLM Exchange Tracts | | |
|---|---|---|
| Tracts/Parcels | General Soils Description | Uses |
| V001, V002, V003 | On the eastern glacial till plains, Mollisols[13] and Entisols[14] occur on the rolling plains, with Entisols dominating the hilly sections. | Rangeland and Dry Land Farming |
| P001, P002, P003, P004, P008, P009, P018, P022, P027, P059, P068, P071, P108, P109, P110, P125, P130, P145, P188, V015, V032, V037, V038, V043, V076, B002, B005, B017, B092, B096, B189 | Central till plains have Aridisols[15] on rolling plains and Entisols and Aridisols on hilly sections. Mollisols are found in nearly level sections. | Dry Land Farming and Rangeland |
| MC1, MC2/MC36, MC3/MC4, MC5/MC6, MC7, MC8, MC9, MC10, MC11, MC12, MC13, MC14, MC15/MC38, MC16/MC17/MC18, MC19, MC20, MC21, MC22, MC23, MC24/MC25, MC26, MC27, MC28, MC29, MC30, MC31, MC32, MC33/MC39, MC34, MC35 | Soils are generally Entisols and Aridisols of the grasslands and shrublands. | Rangeland and Dry Land Farming |

[12] Brady, N.C., 1974. The Nature and Property of Soils. McMillan Publishing, New York, NY

[13] Mollisols are soils with deep, dark, relatively fertile topsoil (mollic epipedon) formed under grassland vegetation of the steppes and prairies

[14] Entisols are recently formed soils resulting from a variety of influences that interrupt or impede the pedogenic process, such as erosion on poorly vegetated sites.

[15] Aridisols are soils of arid regions that are dry more than 50 percent of most years and not moist as much as 90 consecutive days when the soils are warm enough for plant growth.

| Table 3-13 General Soils for BLM Exchange Tracts | | |
|---|---|---|
| Tracts/Parcels | General Soils Description | Uses |
| F004, F018, F019, F020, F021, F035, F037, F174, V073, V000, B040, B041, B042, B065, B143, B157, HC013, HC014, HC015, HC018, HC024, HC041, HC042, HC043, HC068 | On clayey-shale plains, soils Entisols and Aridisols, with Entisols dominating badlands and river "breaks" | Rangeland |
| JC039, JC040, JC064, F065, F074, F095, F114, M101, M102, HC012, HC020, HC022, D1 | Soils of the foothills are mostly Mollisols, with some Inceptisols. Lower foothills, benches, and terraces include Mollisols, Aridisols,and Entisols. Steep areas have mainly Aridisols and Entisols. | Rangeland and Dry Land Farming |
| JC061, B004, B010, B011, B012, B013, B016, B029, B030, B035, B036, B037, B038, B039, HC004, HC007, HC008, HC019, HC030, HC032, HC034, HC058, HC064, HC066, H001, H008, H011 | Mollisols are found on the rolling glacial till plains, and terraces or benchlands formed by glacial outwash. Some Aridisols are found on the clayey terraces, fans, benches, and basins which were left by glacial lakes. | Rangeland and Dry Land Farming |

## *3.2 Private Lands*

### 3.2.1 General Geography, Topography and Aesthetics

The private lands involved in this exchange are generally located in the far western portion of the Crow Reservation in south central Montana about six to ten miles northeast of Pryor, Montana. The private lands are grouped into those which are in the Woody Creek drainage, those in the East Fork Pryor Creek drainage, and those in the Hay Creek drainage.

The Crow Reservation is part of the Rocky Mountain Foreland[16], a transitional zone between the true plains and the Rocky Mountains. The Reservation offers a wide variety of geographic and topographic settings, ranging from alpine (over 9,000 ft.) in the Bighorn Mountains to riparian floodplains (2,800-3,000 ft.) along the Bighorn and Little Bighorn rivers. Generally, the private lands that are proposed for acquisition are between these two extremes in foothills and along intermittent and perennial drainages. The private lands consist of cultivated farmland, grassland, and a mix of grassland/ sagebrush. Table 3-14 provides some general information regarding the geographic setting, topography and aesthetics of the lands in the exchange.

[16]Rocky Mountain Foreland is an environmental region more fully described in the First Annual Report, Montana Environmental Quality Council, 1972.

| Table 3-14 General Geography, Topography and Aesthetics of Private Land in the Phase IV Crow Boundary Settlement Act Land Exchange | | | | | |
|---|---|---|---|---|---|
| Tracts Identity | County | Landscape Position[17] | Topography[18] | View[19] | Scenery[20] |
| Woody Creek Lands | Big Horn & Yellowstone | Upland | Varies from flat to rolling plateau to dissected where terrain descends to bottoms | Expansive | Cropland and Prairie |
| East Fork Pryor Ck Lands | Big Horn & Yellowstone | Upland | Flat to rolling cropland and rolling to broken rangeland | Expansive | Cropland and Prairie |
| Hay Creek Lands | Big Horn & Yellowstone | Upland | Flat to rolling cropland and rolling to broken rangeland | Wide | Cropland and Prairie |

## 3.2.2 Climate

The Crow Reservation has a continental climate with cold winters and warm to hot summers. In Hardin, the July average daily maximum temperature is 90° F., with an average minimum of 55° F. In January the average maximum and minimum temperatures are 32° F and 6° F, respectively. Precipitation varies with elevation from around 10 inches per year along the Big Horn River between St. Xavier and Hardin, to over 30 inches in the Pryor and Bighorn mountains. The private land is located in a zone of 15-20 inches of annual precipitation, with just over half that coming in the growing season months of April through July.

## 3.2.3 Groundwater, Geology and Mineral Potential

The Crow Reservation includes parts of the folded Middle Rocky Mountains, represented by the Bighorn and Pryor mountains, while the remainder of the Reservation lies within the western portion of the Powder River Basin. The high topography in the southwestern part of the Reservation is due to the uplift and folding of the Bighorn and Pryor mountains, which include primarily Paleozoic rocks, including the fairly distinctive limestones of the Madison Group which form the sides of Bighorn Canyon. Some Upper Paleozoic (Tensleep Formation), Mesozoic (Chugwater, Reirdon, Swift, and Morrison Formations) and lower Cretaceous (Kootenai Formation) units also outcrop along the flank of the Bighorn Mountain uplift.

The Wolf and Rosebud Mountains along the eastern side of the reservation result from the eroded, upturned margins of younger, Paleocene strata that extend eastward into the Powder River Basin. The Fort Union formation, known for its coal beds is the primary formation (with the Tullock, Lebo, and Tongue River Members of that formation) present on the eastern side of the Reservation.

[17] Landscape position is described in broad terms relative to major drainages and intervening divides. This characteristic is divided into Lowland (floodplain or terraces near the primary drainage), Intermediate (lands between Lowland and Upland), and Upland (on or straddling the divide).

[18] Topography is divided into categories of increasing drainage density and roughness of terrain using descriptive terms like Flat, Rolling, Broken, Dissected, and Badland.

[19] If views are typically 10-20 miles, they are termed Expansive; 5-10 miles, Wide; 1-5 miles, Open; less than a mile, Narrow; and less that 200 yards, Closed.

[20] Scenery depicts the typical vegetation you might see at this site. Sage denotes sagebrush and grass mixed, Prairie denotes mostly grassland, Mixed means mixed scattered trees, grass and/or sagebrush, and Timber denotes most views are of timber stands.

Between these higher zones on the west and east are lower areas, dominated by late Cretaceous formations. These units are dominated by thick, dark grey shales with some sandstone units, localized bentonite beds, and some lignite and coal seams. Generally these shales are differentiated into the Colorado Group (Thermopolis, Mowry, Belle Fourche, Greenhorn, Carlile, and Niobrara Formations) and the Montana Group (Gammon, Claggett, Judith River, Bearpaw and Fox Hills Formations). Of these, only the Judith River Formation and Fox Hills Formation are sandstones and considered to be significant aquifers. Along the northwestern edge of the Reservation, the Cretaceous Eagle Sandstone outcrops as a white, fine-to-medium grained sandstone with individual cliff-forming beds up to 50 feet thick. Terraces and floodplain deposits occur along the Bighorn and Little Bighorn rivers and along some perennial streams like Pryor Creek and Lodgegrass Creek. Some higher level terrace deposits in the northeastern portion of the Reservation are interpreted to be remnant deposits from the ancestral Shoshone River. Specific geology of the private land is described generally in Table 3-15.

Groundwater potential is closely tied to the geology of the Crow Reservation. The only areas where relatively high volumes of good quality water are available are in the alluvium along the major rivers and streams. Because alluvium is limited in extent and relatively shallow, few areas are particularly conducive to the production of either large quantities or good quality groundwater. Small amounts of water good enough for stock watering have been obtained from some of the sandstone units in the Cretaceous shales generally not considered to be aquifers. Similar results of limited quantities of water can be expected from the sandstone units of the Fort Union Formation. The mineral potential on the Reservation is related to the underlying geology. Coal exists under the eastern edge of the reservation, particularly in the Tongue River Member of the Fort Union Formation. Oil and gas could exist virtually anywhere on the Reservation and several active oil fields produce in the Ash Creek, Soap Creek, Lodgegrass, and Grey Blanket Creek areas. Sand and gravel is available in the alluvium along the streams and rivers. Some geologic units have medium to high potential for bentonite, gypsum, clinker (fire baked shale from burnt coal beds, also locally known as scoria) and limestone.

The private lands are located along the bench land off the northeastern slopes of the Pryor Mountains. The basic geologic formations which underlie the private lands includes the following formations as shown on the Geologic Map of Montana provided by the Montana Bureau of Mines and Geology:

> The Kootenai formation and associated rocks affects a small portion of the private land in section 16, T4S, R27E located on Hay Creek in the far northwestern corner of the private land properties. This formation consists of conglomerate, sandstone, shale and mudstone. Purplish and green beds are common and in southern Montana this formation includes strata which have been mapped as the Cloverly formation.
>
> The Mowry Shale formation affects those private properties which are in the area of Woody Creek in T4S, R28E which is the eastern portion of the private properties. This formation is chiefly a light-gray silicified shale and claystone with minor amounts of sandy shale and sandstone. It sometimes also contains thick beds of bentonite.
>
> The Thermopolis Shale formation is the primary geologic structure which affects the remainder of the private land tracts. This formation is a dark gray shale with some sandstone. The subsurface consists of a muddy sandstone member or Newcastle Sandstone member at the top, a shale member in the middle, and Fall river Sandstone or First Cat Creek sand of drillers at the base.

The mineral estate for the private lands, which is already in federal ownership, will not be a part of this land exchange.

| Table 3-15 Geology and Mineral Potential of Private Lands in the Phase IV Crow Boundary Settlement Act Exchange | | | |
|---|---|---|---|
| Tract Identity | County | Geologic Formation[21] | Minerals[22] |
| Hay Creek Lands | Yellowstone and Big Horn | Thermopolis Shale/Kootenai Fm | Oil, Gas |
| East Fork Pryor Creek Lands | Yellowstone and Big Horn | Thermopolis Shale | Oil, Gas |
| Woody Creek Lands | Yellowstone and Big Horn | Thermopolis Shale/Mowry Shale | Oil, Gas |

## 3.2.4 Surface Water Rights

Table 3-15 identifies water rights on the private land within the Crow Reservation that are involved in this exchange. There are seventeen water rights recorded on the private land to be acquired. However there are numerous fee tribal allotments within the ranch unit that also depend on those water rights for grazing purposes as they have been utilized in the past as a part of the overall ranch unit. It is assumed that these tribal allotments will continue to be a part of the overall ranch unit.

Because the traditional pattern of grazing involves pasture units much larger than some of the tracts of private land to be acquired, circumstances may arise where there is no water on those private tracts and as a result, it may be critical that the use of the adjacent fee tribal allotments be continued. The same is true when a fee tribal allotment does not have water, but depends on a water source on a nearby tract of acquired private land to make it fully useable for grazing. Although these impacts are discussed in the impact evaluation section of the environmental assessment, not enough information is available to individually characterize the impact to each of the tracts involved.

| Table 3-16 Water Rights on Private Land in the Phase IV CBSA Exchange | | | |
|---|---|---|---|
| Legal Description | Acres | Water Rights | Type of Use |
| BIG HORN COUNTY | | | |
| T4S, R27E | | | |
| Section 27: N2SW, SE | 240.00 | None Listed | |
| Section 29: SWNE, SENW, E2SW, SE, W2W2 | 480.00 | 43E-W-044554 | Stockwater |
| Section 30: SE | 160.00 | 43E-W-189152(S2,Lot 12) | Stockwater |
| Section 31: Lots 6, 7, 8, W2NE, NWSE | 240.00 | 43E-W-206555(SW) | Stockwater |
| Section 32: S2NE | 80.00 | None Listed | |
| Section 33: NE, S2NW | 240.00 | None Listed | |
| Section 34: W2W2, SE | 320.00 | None Listed | |
| T4S, R28E | | | |
| Section 14: W2W2W2W2 | 40.00 | None Listed | |

[21] Geologic information is taken from Geologic Map of Montana as provided by the Montana Bureau of Mines and Geology.

[22] Mineral potential has not been assessed, since the minerals will not be exchanged

| Table 3-16 Water Rights on Private Land in the Phase IV CBSA Exchange | | | |
|---|---|---|---|
| **Legal Description** | **Acres** | **Water Rights** | **Type of Use** |
| Section 15: E2, E2E2W2, E2E2W2E2W2, E2W2E2W2E2W2, E2W2W2E2W2E2W2 | 435.00 | None Listed | |
| Section 19: Lot 7, NESE | 77.99 | None Listed | |
| Section 20: All | 640.00 | 43E-W-044542<br>42E-W-044543 | Stockwater<br>Stockwater |
| Section 21: All | 640.00 | None Listed | |
| Section 22: N2N2NENE, S2SW | 90.00 | None Listed | |
| Section 23: NWSW | 40.00 | None Listed | |
| Section 27: NW, NWNE, W2SWNE, W2SW, N2NESW, SWNESW, W2SESW | 350.00 | 43P-044547<br>43P-044548 | Stockwater<br>Stockwater |
| Section 28: All | 640.00 | 43P-W-044546 | Stockwater |
| Section 29: All | 640.00 | 43E-W-044545 | Stockwater |
| Section 30: Lots 5, 6, 11, 12, 13, 14, E2SW, SE | 474.58 | 43E-W-044544 | Stockwater |
| Section 31: Lots 7, 8, S2SWNE | 101.21 | None listed | |
| Section 32: Lots 3, 4, E2W2, W2E2 | 402.30 | None Listed | |
| Section 33: All | 640.00 | None Listed | |
| Section 34: NWNW, SWSWNW, W2NWSW, N2SWNW | 90.00 | 43P-W-044647 | Fish and Wildlife |
| T5S, R28E | | | |
| Section 4: Lots 2, 3, 4, S2NW, W2SWNE, N2SW, SWSW, W2SESW | 362.97 | None Listed | |
| **Total Big Horn County** | 7424.05 | | |
| YELLOWSTONE COUNTY | | | |
| T4S, R27E | | | |
| Section 2: Lot 4, SW | 210.94 | 43E-W-208821 | Stockwater |
| Section 3: Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, SE | 601.28 | 43E-W-208822 | Stockwater |
| Section 10: W2E2 | 160.00 | None Listed | |
| Section 11: NW, NWSW | 200.00 | 43E-W-199926 | Stockwater |
| Section 12: S2S2NE, N2N2SE | 80.00 | None Listed | |
| Section 15: NE | 160.00 | None Listed | |
| Section 16: All | 640.00 | None Listed | |
| Section 17: NE, SW | 320.00 | 43E-W-044553 | Stockwater |
| Section 22: N2S2 | 160.00 | None Listed | |
| Section 24: SWSE, N2SE | 120.00 | 43E-W-044558<br>43E-W-044535 | Stockwater<br>Domestic |
| T4S, R28E | | | |
| Section 2: Lots 1, 2, 3, 4, S2N2, S2 | 645.76 | None Listed | |
| Section 3: Lots 1, 2, SE, S2NE | 323.90 | None Listed | |
| Section 10: E2 | 320.00 | None Listed | |
| Section 11: W2 | 320.00 | None Listed | |
| Total Yellowstone County | 4261.88 | | |

## 3.2.5 Vegetation

The Montana Vegetation Types map[23] lists five vegetative types on the Crow Indian Reservation. Lodgepole pine-Douglas fir forest occurs in the Bighorn Mountains and in the foothills north of the Pryor Mountains. Eastern Montana ponderosa pine forest occurs in the Wolf Mountains and on a small portion of the Crow Reservation immediately southeast of Billings. Ponderosa Pine Savannah occurs near the eastern edge of the Reservation. The Central Grassland vegetation type occurs in the vicinity of Hardin and extends about 20 miles east and west and about 15 miles up the Bighorn and Little Bighorn drainages. The remainder of the Reservation consists of the Foothill Grassland vegetative type. All of the private land to be acquired is within the Foothill Grassland vegetative type. Table 3-17 shows the general species composition for this vegetative type.

**Table 3-17 Vegetative Type Characteristics for Private Lands**
(distinguishing species in bold)

| Foothills Grassland | | | | |
|---|---|---|---|---|
| Tracts/Parcels | Grasses | Forbs | Shrubs | Trees |
| All of the private land | **Bluebunch wheatgrass**<br>**Western wheatgrass**<br>**Idaho fescue**<br>**Sheep fescue**<br>Needle-and-thread<br>Mountain brome<br>Pumpelly brome<br>Thickspike wheatgrass<br>Bluegrass<br>Sandberg bluegrass<br>Prairie junegrass<br>Green needlegrass<br>Blue grama | Western yarrow<br>Clubmoss<br>Lupine<br>Phlox | Douglas hawthorne<br>Saskatoon serviceberry<br>Western chokecherry<br>Russet buffaloberry<br>Rose | Quaking Aspen |

### 3.2.5.1 *Rare Plants*

Rare plants have not been identified on any of the private lands that are proposed for exchange. Information received from the Montana Natural Heritage Program indicates that there are no rare plants on any of the private lands involved in this exchange proposal.

### 3.2.5.2 *Noxious Weeds*

Noxious weeds are usually exotic plants that proliferate and reduce the value of land for agriculture, forestry, livestock, wildlife, and other beneficial uses. Noxious weeds spread rapidly, out compete most native species and have at least some of the following characteristics:

[23] Payne, G.F., 1973 Vegetative Rangeland Types in Montana, Montana Agricultural Experiment Station, Montana State University, Bozeman.

1. Continuous seed production during the growing season
2. Highly efficient seed dispersal
3. Persistent banks of seeds or seedlings
4. Capability for growth in adverse climates and soils
5. Capability to reproduce through seeds, sprouts, and rhizomes
6. Few natural controls [24] [25]

Several noxious weeds are known to be established on the Crow Reservation. Spotted knapweed occurs as isolated infestations along Interstate 90 near Hardin and the Wyoming border; near Fort Smith; along the Edgar-Pryor road; and along Highway 212 near the eastern boundary of the Reservation. Leafy spurge occurs west and southwest of Pryor, near the western edge of the Reservation, and in the Lodgegrass and Wyola areas. The private land to be acquired has Canada thistle, hounds tongue, and field bindweed on it. There are significant amounts of Canada thistle in the bottoms of various drainages which cross the private lands.

## 3.2.6 Wildlife Habitat and Fisheries

With its varied topography, the Crow Reservation provides a wide variety of habitat for a number of species. There are 64 small mammal species known to exist on the reservation. Ten large mammals, including mountain lion, black bear, elk, white-tailed deer, mule deer, and moose also live on the reservation. Seasonally, there are as many as 261 different bird species. Five amphibians and 15 reptiles are known to occur on the reservation.[26]

The private lands on the reservation provide excellent habitat suitable for antelope, mule deer, and upland game birds. Some of the stock water ponds provide seasonal waterfowl habitat. Generally, these habitats are little used by game species because of year-round hunting by Crow tribal members, combined with no bag limits, and relatively easy 4-wheel drive access.

The private lands are crossed by two perennial streams and numerous ephemeral drainages. The two perennial streams are Hay Creek and East Fork Pryor Creek. Table 3-18 provides further information on the perennial streams on the private land.

**Table 3-18 Perennial Streams on the Private Land in the Phase IV Exchange**

| Private Land | Stream | Miles on Parcel | Fishery Present | Public Access |
|---|---|---|---|---|
| Hay Creek Lands | Hay Creek | 3.0 | No | No |
| East Fork Pryor Creek Lands | East Fork Pryor Creek | 2.0 | No | No |

[24] Montana Department of Agriculture, 1981, Weed Training Manual, Helena, MT.

[25] McDonald, P. and C. Tappeiner, 1986. "Weeds," Journal of Forestry, 84(10):34-37.

[26] Crow Tribe Resource Development Technical Reports. Oct. 1977, "Wildlife", prepared by Rocky Mountain Research Corporation, p 5-1 to 5-34.

### *3.2.6.1 Threatened and Endangered Species*

The Crow Reservation provides historic habitat for grizzly bear, wolf, and black-footed ferret, although none of these species presently exist there. Occasional bald eagle and peregrine falcon use occurs on the reservation, but none of the private lands involved in the exchange have been linked to this occasional use.

Information received from the Montana Natural Heritage Program indicates that there are no known occurrences of threatened or endangered species on any of the private lands involved in this exchange proposal. None of the private lands involved have any habitat critical to any threatened or endangered species.

## 3.2.7 Recreation

Due to the lack of legal road access to most of the private land tracts, there is little, if any, potential recreational use on the lands to be acquired. After the land is acquired, there could be some use of the lands by tribal members for hunting or other purposes. Tribal lands are essentially not open to big game hunting by non-Tribal members, however, it appears the hunting of upland game birds by non-Tribal members is allowed. There are only three tracts of private land which have public road access(BIA roads) and these are in the area of Hay Creek. The remainder of the private land does not have legal public road access.

## 3.2.8 Cultural Resources

A class I survey (literature review) of the private land reveals three recorded cultural resource sites involving rock alignments, lithic scatters, and tipi rings in the areas of Wild Horse Ridge, East Pryor Creek, and Deep Creek. After the acquisition has been completed and the land placed in a federal trust status, any action which would involve surface disturbance in the area of those sites would require a Class III cultural resource inventory and evaluation in order to determine if those cultural sites would be adversely impacted.

## 3.2.9 Access

As mentioned previously only three tracts of private land have public road access to them and the remainder of the private land does not. The three tracts of private land with public road access are located in the area of Hay Creek in sections 16, 29, 30 and 32, T4S, R27E. The remainder of the private land tracts are surrounded by a combination of fee (private) lands, Tribal lease lands or individual Tribal allotments. Tribal members may have access to the private lands to be acquired by crossing Tribal lease lands or allotted lands and fee owners can reach these lands from their adjacent ownership, but the lands are not legally accessible to the general public.

Primitive roads and four-wheel drive trails provide access to all of the remaining private land. However, these roads are considered private and provide access exclusively to the owners or are used cooperatively by adjacent landowners and lessees to reach their respective lands. In some cases, a written easement or right-of-way may have been granted while in other cases access may be by common consent between adjacent landowners.

## 3.2.10 Socioeconomics

### *3.2.10.1 Timber and Grazing Revenue*

There are no commercial timberlands on the private lands involved with this exchange. Grazing and cultivated cropland are the only known sources of income which have been derived from the private lands to be acquired. It is assumed that those uses will continue as in the past. However, the Tribe could, after the acquisition has been completed, opt to convert the unit to strictly grazing and forego the dryland cropping. Specific numbers as to the yields on the cropland are not available, but Tribal grazing leases average about $5.00 per acre.[27]

[27] Information provided by the BIA and Crow Tribe indicates that, depending on competition for leases, tribal lease rates may vary from $1.00 to as high as $10.00 per acre (or about $4.00 to $40.00/AUM). However, $5.00 per acre was considered more indicative of the actual market for both tribal and private leases

### *3.2.10.2 Property Taxes and Payment in Lieu of Taxes*

Once the private lands are acquired, they will no longer be taxable by Big Horn and Yellowstone Counties. This will result in a loss of property tax revenue to those Counties (See Table 3-10). However, not all of the private land will be acquired because the Act states that BLM is to acquire an amount of land which is equivalent in value to those State lands which had previously been disposed and consequently, some portion of the private land will remain in the ownership of the Crow Tribe and will continue to be subject to property taxes.

The private lands were not eligible for PILT payments before acquisition nor will they be after acquisition by the federal government because they will be placed into a trust status for the Crow Tribe. Consequently, the proposed action has no effect on PILT for Big Horn or Yellowstone Counties.

### *3.2.10.3 Land Values*

All of the lands involved in the exchange must be appraised to determine their fair market value. It is expected the overall appraisal process will be completed during the summer of 2001 and then the appropriate decision documents will be issued. The appraisal of the private land shows that there are 2,247.90 acres of dry cropland, 9,370 acres of native pasture, six acres of residential and building sites, and about 62.03 acres of roads for a total of 11,685.93 acres. Not all of this land will be acquired in Phase 4 because the overall $1,930,000 appraised value of all of the private land exceeds the $1,669,194.70 value which is to be acquired by the United States in lieu of the State land which had been patented into private ownership. Specifically which private lands will be acquired will be identified in the Notice of Decision.

## 3.2.11 Hydrologic and Soil Resources

All of the drainages on the private lands, except two, are intermittent drainages and are usually dry most of the year. Table 3-18, presented earlier, summarizes the perennial drainages and the stream miles on the private lands. Small stock water reservoirs, springs and ponds on the private tracts may also provide some aquatic habitat for waterfowl, frogs, turtles, and aquatic insects. Most of these reservoirs evaporate in dry years, so no fisheries are supported. Table 3-16, also presented earlier, indicates which parcels have stock water available.

Intense local thunderstorms during summer and "chinook" winds that rapidly melt snow cover in winter can lead to runoff in the intermittent drainages. Major runoff can be accompanied by severe erosion and gullying, particularly on those lands underlain by erodible shales. Some lands may have "badlands" developing where poor soils, little vegetation, and occasional, high intensity runoff occurs.

In general, most of the soils on the private lands have developed in place or "in situ" on the underlying geologic formations, except for relatively small areas where alluvial and terrace soils are deposited along drainages. Table 3-19 shows the generalized soil groups for the private lands.

The high percentage of silt and clay content in underlying shales produces soils that are clayey to loamy and which have good water holding capacity. High clay content inhibits rapid infiltration of water, so short duration precipitation events tend to only wet the surface layer and not penetrate to any depth. This makes driving access on unimproved roads nearly impossible when soils are wet and is responsible for the tendency to have runoff, resulting in gullying. Soils developed over more sandy units tend to have loamy characteristics, take on water faster and dry out quicker and are not as prone to gully and badlands formation. The majority of the soils and terrain on the private lands are more conducive to livestock grazing than farming, however, out of the 11,685 acres being acquired, about 2,200 acres are currently cultivated to raise dryland grain and hay crops.

| Table 3-19 General Soils for Private Lands to be Acquired | | |
|---|---|---|
| Parcels/Tracts | General Soils Description | Uses |
| East Fk of Pryor Crk Tracts | Entisols and Aridisols which are predominately clayey with strongly sloping to steep slopes on dissected shale plains | Rangeland |
| Hay Creek Tracts | Mollisols with nearly level to steep soils on fans, benches, and terraces | Rangeland and Dry Land Farming |
| Woody Creek Tracts | Mollisols-Entisols consisting of nearly level to strongly sloping soils on sedimentary bedrock plains. | Rangeland and Dry Land Farming |

# 4.0 CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES

The impact analysis of the Proposed Action (also called the Exchange Alternative—see definition of Proposed action and alternatives in Section 2.0) starts from the premise that the proposed exchange will occur and that the impacts of the exchange will stem solely from differing management practices or proposed changes in the basic land use that would occur if the exchange were completed. It also assumes that the proposed exchange process (exchange of deeds, filing of deeds, transfer of water rights, etc.) will go forward as soon as a Notice of Decision has been issued and any adverse comments resolved or the BLM appeals process completed.

Analysis of the No Action alternative will look at the consequences of not exchanging lands as proposed. If this alternative were implemented, BLM would still be under the mandate to acquire the private land within the Crow Reservation, but with other BLM lands that would have to be identified and analyzed in a separate land exchange proposal for which a separate EA would have to be prepared.

Under the Proposed Action, it is the BLM's intent to acquire a portion ($1,699,194.70) of the Pryor Creek Ranch in order to fulfill the final requirements of the Crow Boundary Settlement Act. Specifically which BLM lands will ultimately be disposed and which private lands will be acquired will be identified in the Notice of Decision which will be issued subsequent to this Environmental Assessment. If there are not sufficient BLM lands disposed in order to acquire the specified amount of private lands, then more BLM lands will have to be identified and addressed in a subsequent Environmental Assessment document to fully satisfy the requirements of the Crow Boundary Settlement Act.

## *4.1 Impacts of the Proposed Action*

### 4.1.1 General Geography, Topography and Aesthetics

The proposed action will have no affect on the general setting of any of the BLM lands, with the possible exception that a future timber sale and harvest on Parcel F114 may change the viewshed, by a short-term reduction in timber volume and by changes in the age class distribution of timber. Also some parcels which are currently rangeland with suitable tillable soils and topography, especially Parcels H001 and H011, may be converted to cropland, but this is not expected to occur in the near future due to depressed grain markets.

There are no impacts anticipated which will affect the geography, topography or aesthetics of the private lands to be acquired on the Crow Reservation as a result of this exchange. However, it is possible that the Crow Tribe may allow the land currently being cultivated to be converted back to grass for grazing purposes.

### *4.1.2 Climate*

No climate related impacts will result from the proposed exchange.

### 4.1.3 Groundwater, Geology and Mineral Potential

On the BLM lands, no impacts are anticipated to groundwater, geology, or to present or future mineral potential as a result of the proposed exchange. Because BLM will retain ownership of the mineral estate, it is possible that unanticipated future mineral development might preclude surface uses by the new owner. Should oil and gas development be proposed upon these lands, the private landowner would be given notice pursuant to the Surface Owner Damage and Disruption Compensation Act, " 82-10-501, et.

seq., MCA. Should hard-rock mineral development be proposed upon these lands by any means other than hand tools, the private landowner will be given notice pursuant to the Landowner Notification Act, §82-2-301, et. seq., MCA.

No further impacts are anticipated in regards to the acquisition of the private lands on the Reservation, as it is expected the management and use of those lands will continue as in the past. If mineral development on the federal mineral estate on those lands should occur in the future, there could be impacts to the surface uses and to groundwater (for example, with oil and gas drilling, or open pit coal mining). None of these potential uses can be anticipated at this time and future environmental assessments would be required if such development were to be proposed.

## 4.1.4 Surface Water Rights

Water rights on BLM lands are mainly for stock water, waterfowl, or wildlife use from stock water ponds, wells, or direct use from streams. The BLM water rights and uses are appurtenant to the land and would transfer to the new owner and continue for the purposes designated. Rights filed in the name of lessees of BLM lands would continue to be used by the lessee. Water rights held by other entities would be retained by those entities.

Water rights on the private lands to be acquired will transfer to the federal government for the use and benefit of the Crow Tribe. For stockwater rights, where the place of use and point of diversion are the same place (for example, a stock water pond on the private land within the Reservation) the water right associated with that use is appurtenant to the land. This means that the water rights developed on private lands in this exchange will transfer with the land to the United States to be held in trust for the Crow Tribe. In most cases, the development needed to provide water to fulfill the right was done by the previous landowners. The water right became an improvement on the property for use and enjoyment by the owner or in this case the Crow Tribe.

There are seventeen water rights recorded on the private land to be acquired. However there are numerous fee tribal allotments within the ranch unit that also depend on some of those water rights for grazing purposes because they have been utilized in the past as a part of the overall ranch unit. Because the traditional pattern of grazing involves pasture units much larger than some of the tracts of private land to be acquired, circumstances arise where there is no water on those private tracts and as a result, it may be critical that the use of the adjacent fee tribal allotments be continued. The same is true when a fee tribal allotment does not have water, but depends on a water source on a nearby tract of private land to make it fully useable for grazing. These impacts are hypothetical at this time and not enough information is available to individually characterize the impact to each of the tracts involved. However, it is assumed that these tribal allotments will continue to be a part of the overall ranch unit and as a result, water would be available to all of the various tracts within the ranch unit.

## 4.1.5 Vegetation

Most, if not all, of the BLM tracts are utilized for grazing purposes and it is expected that use will not change. However, there are twenty-two BLM parcels in Valley, Phillips, and Blaine Counties which were at one time patented into private ownership under the authority of the homestead laws. These lands were marginal for homesteading purposes and during the drought and depression of the 1930's many of those lands were abandoned because they were incapable of providing sufficient income to support the owners and their families. The Bankhead-Jones Farm Tenant Act of 1937 allowed the federal government to purchase these submarginal lands and retire them from cultivated agricultural production. However, it is known that some of these tracts or portions of them have soils and topography which may be suitable for cultivation and it is possible that the conveyance of some of these lands could result in the cultivation of portions of some parcels. However, this is not expected to occur in the near term due to the severely depressed grain markets and the current emphasis to reduce grain production through the Conservation Reserve Program and other such efforts.

There is also the possibility of future timber harvest on BLM parcel F114 which has merchantable timber on it. This forty acre tract has twenty-five acres of

commercial timber and the remaining fifteen acres consists of sagebrush/grass or non-commercial species of trees. A timber cruise determined that the tract has 120,862 board feet of Ponderosa Pine and 5,501 board feet of Douglas Fir. The tract has 20 to 30 percent slopes thus allowing for any potential harvesting to be done by ground-based logging equipment. The current road system in that immediate area would likely be utilized if harvesting were to occur and only minimal road construction would be required.

Other potential impacts to vegetation on the BLM and the private lands after the exchange has been completed could result from different grazing policies or management practices that allow changes in the current stocking levels of livestock. This could result in either more or less grazing than presently occurs. More grazing could result in overgrazing, which would lead to increased erosion, and might alter species composition on the lands, including introduction and spread of weeds. Less grazing, over time, might also result in a species composition shift towards native species in proportions closer to what existed before livestock grazing was introduced. However, the BLM lands are fenced in with adjacent private lands and it is assumed that the present grazing practices will continue after the exchange is completed.

For the private lands to be acquired on the Reservation, grazing policies and practices are sufficiently vague when comparing private land grazing practices to Tribal trust leases, that any prediction of future impacts would be purely hypothetical. It is assumed that both the private landowners and the Tribe have vested interests in the long-term productivity of these lands. Therefore, stocking levels will probably remain similar to present levels.

### *4.1.5.2 Rare Plants*

As a result of information received from the Montana Natural Heritage Program, there are no known rare plants on the BLM or the private lands to be acquired and as a result, there is not expected to be any impacts to rare plants. However, without an intensive on-the-ground inventory, it is difficult to say for certain that rare plants would not be affected, but given that the land use on most BLM parcels and on the private land to be acquired is not expected to change, no new impacts to any rare plants which may exist on that land are expected to result from the exchange.

### *4.1.5.3 Noxious Weeds*

Noxious weeds are known to occur on BLM Parcels F102(Canada thistle), B189(Russian knapweed and leafy spurge), HC068(Canada thistle), and P068(Canada thistle). BLM has a weed control program for the land it manages, but with the large amount of acreages to treat for noxious weeds, it is not likely that these small isolated tracts, which have been identified for disposal, will get treated before other larger blocks of BLM land with more significant resource values. Once the land is conveyed into private ownership it is more likely that these weed infestations will get the attention needed by the new landowner in order to control noxious weeds.

Known noxious weeds on the private lands to be acquired include Canada thistle, hounds tongue, and field bindweed. Because these lands will become trust lands after acquisition, the control of the noxious weeds will be the joint responsibility of the Bureau of Indian Affairs and the Crow Tribe. Both of these entities have an active noxious weed control program.

## 4.1.6 Wildlife Habitat and Fisheries

All parcels of the BLM land, except Parcel JC061 (critical mule deer winter range), have moderate to low on-site values for wildlife. The exchange of the isolated parcels into private ownership is not expected to have a significant impact on wildlife or riparian habitat. Current management of most of these tracts will most likely continue where the grazing lessee acquires the BLM tract because that land will continue to be managed in conjunction with the adjacent private lands as they have in the past. Any conversions of rangeland to cropland, which is a possibility for Parcels H001 and H011, could have detrimental effects on wildlife dependent on native range. Even though dry cropland offers some wildlife benefits, the wildlife benefits of leaving the land as

rangeland will be lost if there are conversions of rangeland to cropland. However, none of the tracts which have cropland potential have crucial wildlife habitat on them. Parcel JC061 has crucial mule deer habitat but because the tract has very rough terrain, it would not be suitable for any type of agricultural use except continued livestock grazing.

The wildlife habitat on Parcel F114 could be affected if the merchantable timber on the tract is harvested after conveyance has been completed. There could be both negative and positive impacts to wildlife and wildlife habitat, resulting from timber harvest on this tract. Even though this EA cannot address specific impacts of a future timber sale, the following discussion addresses some of the general impacts that might result from timber harvest.

Timber harvest on this tract could have short-term adverse impacts to many species of wildlife and particularly could harm big game security habitat, however, the small amount of merchantable timber acreage involved(25 acres) would minimize the overall effects. In the worst case, removal of conifer canopy could inhibit mule deer, white-tailed deer, and elk winter use and somewhat increase vulnerability during the hunting season. While the tract does not have public access, it is assumed that landowners controlling access could hunt on the parcel or allow hunting access to the area. The impacts and their severity would depend on the amount of timber harvested, the method of harvest, the timing of the harvest, road construction, road closures, and many other factors. Another impact related to timber harvest is that it could reduce the number of large trees used by roosting turkeys and raptors.

Deferring or even stopping the harvest of timber would not guarantee that wildlife impacts might not occur. Any forested land in the dry, hot summer environment of Montana has a substantial risk of loss to fire in any year. Although detrimental wildlife effects are associated with timber harvest, it can also benefit wildlife habitat by compartmentalizing and reducing fuels, thereby reducing the risk of large fires. Timber harvest may provide more grass, forb and shrub forage and may increase the grazing capacity of the parcel for a period of time until new timber growth again shades the understory and restricts herbaceous growth.

Those BLM parcels which have legal public road access could be utilized for residential purposes. However, this would be likely to occur only in those areas where there already is residential development. This essentially would be an expansion of an existing residential area and consequently, the impact to wildlife would be minimal.

Even though there are two perennial streams (Milk River and Beaver Creek) located adjacent to or on two BLM parcels and on two private land tracts (Hay Creek and East Pryor Creek) to be acquired, there is not expected to be any significant impacts to fisheries. No changes are anticipated on any of the BLM or private lands involved in this exchange that would have adverse effects on any fishery, stream, river, stock water pond, or wetland.

Wildlife habitat would continue to be good to excellent on the private land to be acquired on the Crow Reservation, but because of hunting policies and lack of escape cover, the land would continue to be under used by the big game species heavily hunted by tribal members. All of the tracts of private land to be acquired that are not already converted to cropland are expected to continue as native rangeland under the Tribal leasing program.

### *4.1.6.1 Threatened and Endangered Species*

The BLM parcels do not have any known threatened or endangered species on them. However, some of the BLM tracts are located in areas which are a part of large habitat areas for the swift fox and mountain plover, but none of those BLM lands specifically provide crucial or critical habitat for those species. Additionally, given that no immediate land use changes are anticipated by the exchange, except for the possibility of isolated instances of rangeland to cropland conversions, no impacts are anticipated to any threatened or endangered species as a result of the exchange.

There are no known occurrences of threatened or endangered species on any of the private lands to be acquired. None of the private lands have any habitat critical to any threatened or endangered species.

## 4.1.7 Recreation

Most of the BLM lands receive a minimal amount of recreational use because of the lack of legal public road access. Of the 130 BLM parcels being considered for use in the exchange, only 28 have legal public road access and recreational use on these is minimal due to the fact that many of those parcels are isolated from other public land, they have low resource values, and/or generally are of a small size. All of those factors limit the recreational opportunities available on the BLM parcels.

Some of the BLM tracts have scattered stands of coniferous trees which allow for a greater variety of recreational pursuits. However, again, most of the parcels do not have legal public road access to them and this, along with their scattered isolated location relative to other public land, significantly reduces the potential for public recreation on those tracts. None of the parcels show an outward indication of significant recreational use. Most of the BLM tracts are far enough from population centers to be removed from all but occasional recreational use, which probably would occur only during hunting season.

On the Crow Reservation, only three tracts of the private land to be acquired are legally accessible to the public for recreational use. Since non-Indians are not allowed to hunt big game on Tribal lands or Tribal trust lands on the reservation, these tracts will likely receive very little recreational use. Hunting for upland game birds could be done on these three tracts with the proper authorization. Generally, most of the private land to be acquired is not legally accessible to non-tribal members and so the recreational use would be limited to Tribal members. For that reason, the acquisition of the private land will provide more recreational opportunities for Tribal members than was available when the land was owned by a non-tribal entity.

## 4.1.8 Cultural Resources

There will be no known cultural resource values considered eligible for the National Register of Historic Places impacted or affected as a result of the exchange. The BLM lands had a Class III cultural inventory conducted on them and there were no significant cultural sites considered eligible for the National Register of Historic Places found on those tracts. The private land to be acquired will become federal trust land and as a result any change in land use or additional surface disturbance would require a cultural survey. The Bureau of Indian Affairs would be responsible for these lands that ultimately become part of the Tribal trust lands.

## 4.1.9 Access

There are vehicle trails or tracks on many of the BLM lands involved in the exchange. However, only twenty-eight parcels have legal public road access and all rights associated with those authorized access roads will be retained for continued public use. A few BLM parcels have access to them by virtue of the fact they are adjacent to other public land, but once the land is conveyed into private ownership that access will no longer be available.

Only three tracts of the private land to be acquired have legal public road access to them which consists of two BIA roads. These tracts are located in the area of Hay Creek. This access will continue after the acquisition of those private lands. The remainder of the private land is accessible by unimproved four-wheel drive trails which are difficult to use any time there are muddy conditions, but especially during the spring. The use of these roads will likely only be available to those who own Tribal allotments in that area and other Tribal members. Since the Crow Tribe already owns the private lands to be acquired, the access situation on the private lands will likely not change as a result of the acquisition.

## 4.1.10 Socioeconomics

### *4.1.10.1 Grazing*

Grazing receipts overall to the BLM would decrease $5,652.45 if all of the BLM tracts were exchanged into private ownership. The affected Counties in which the BLM lands are located would stand to lose

somewhat in the area of grazing fees since all, except seven, of the BLM parcels generate revenue from leases for livestock grazing. This is because a portion of all of the grazing fees from BLM lands are returned to the State of Montana who then shares them with the Counties in which those fees originated. However, this loss to the counties will be minimal for the following reasons: 1)The return of grazing fees from BLM to the State is 12 1/2% of fees collected within a grazing district and 50% of fees collected on land outside of a grazing district, 2)The total amount of grazing fees collected is relatively small due to the low number of AUM's on most of the BLM parcels, 3)The low fee charged per AUM which is $1.35/AUM, and 4)The reduction in that portion of the grazing fees to be returned to the counties would be spread over nine affected counties.

Also, because there are intrinsic values to private land ownership that are not quantifiable, it is not practical to try to determine if the fair market value paid by a private party to acquire BLM lands is more cost effective than simply continuing with a BLM lease, which is invariably less expensive. However, if the land were subleased for grazing after being acquired by a private individual, the owner could potentially collect lease fees much higher than the BLM grazing lease rate.

On the private land to be acquired the grazing management of those lands will likely continue as they have since the Crow Tribe acquired the property in January of 1999.

### *4.1.10.2 Timber*

Only BLM parcel F114 has merchantable timber on it. This parcel is 40 acres in size and has about 25 acres of merchantable timber or about 126,362 board feet of timber on it. If that timber was harvested there would be a minimal amount of benefit to the local economy. The estimated 126,362 board feet of timber would likely be hauled to a mill in that region, thus providing jobs to the harvesters and feedstock to the mill.

There is no merchantable timber on the private lands on the Crow Reservation, so no revenue would be generated by timber sales from these lands either before or after the exchange.

### *4.1.10.3 Payment in Lieu of Taxes*

The PILT payments would not change for Blaine, Phillips, Madison, and Valley Counties as a result of the conveyance of the BLM lands into private ownership. However, in the remaining counties it is estimated that there would be a reduction in PILT payments. This estimated reduction if all of the BLM land was utilized in the exchange is as follows:

| | |
|---|---|
| Chouteau | $2,483 |
| Fergus | $1,601 |
| Meagher | $19 |
| Hill | $219 |
| Rosebud | $8,420 |
| Custer | $424 |

However, this reduction in PILT will be somewhat offset by the fact that once the BLM lands are conveyed into private ownership, they will then be subject to property taxes within those respective counties.

The private lands to be acquired in Big Horn and Yellowstone Counties were not eligible for PILT payments before the exchange nor would they be eligible for PILT payments after the exchange. Consequently, there would be no change in the PILT payments for those counties.

### *4.1.10.4 Property Taxes*

The conveyance of the BLM lands into private ownership will generate more property tax revenue for each of the counties where the BLM land is located. The land in Big Horn and Yellowstone Counties which will be acquired by the federal government will no longer be subject to property taxes and as a consequence will reduce the amount of property tax revenue available in those counties. The summary below provides the estimated amount of change for each affected county if all of the private land is acquired and all BLM land is conveyed into private ownership.

| Table 4-1 Estimated Change in Property Taxes After Exchange | | |
|---|---|---|
| County | Increase in Property Taxes | Decrease in Property Taxes |
| Big Horn | | $5622 |
| Blaine | $658 | |
| Chouteau | $754 | |
| Custer | $152 | |
| Fergus | $539 | |
| Hill | $60 | |
| Madison | $25 | |
| Meagher | $42 | |
| Phillips | $2,274 | |
| Rosebud | $1,552 | |
| Valley | $880 | |
| Yellowstone | | $3,982 |

Even though Big Horn and Yellowstone Counties will lose tax revenue because of the acquisition of private land in those counties, this impact is not avoidable because the Crow Boundary Settlement Act specifically mandates the Bureau of Land Management to acquire private land within the Reservation in lieu of State lands which had previously been patented into private ownership. The Pryor Creek Ranch was identified by the Crow Tribe for acquisition pursuant to the Crow Boundary Settlement Act and they actually purchased the ranch in January of 1999 in anticipation of the acquisition of a portion of it by the federal government as a result of Phase IV. However, not all of the private land in those two counties will be acquired, but rather only an amount of land which is equivalent in value to those State lands which had been disposed previously by the State of Montana or approximately $1,669,194.70. That portion of the ranch which is not acquired by the federal government will continue to be assessed taxes by the Counties unless the land is placed into a trust status at some time in the future.

### *4.1.10.5 Land Use Authorizations*

Other than authorization for livestock grazing, the only other use authorizations on the BLM parcels are for rights-of-way. There are 22 right-of-way authorizations which affect 23 of the BLM parcels being considered for disposal. These right-of-way grants are for different types of uses including roads, transmission lines, underground telephone cables, oil and gas pipelines, and highways. Table 3-11 delineates which BLM parcels are affected by these authorizations, the type of use for the right-of-way and the name of the right-of-way holder. Some of these authorizations are for a perpetual period of time while others are effective for only a specific number of years. For those rights-of-way which have a perpetural term, the conveyance document will be issued subject to those authorizations. For those right-of-way grants which do not have a perpetual term, they will be converted to an easement through the efforts of the exchange facilitator, the holder of the BLM right-of-way grant, and the prospective new owner of the BLM land. These easement documents must be executed prior to closing of the exchange transaction and held in escrow. Upon closing of the exchange, the easement documents will be released and will be effective at that time. The purpose of converting these rights-of-way to easements is to protect those holders whose authorization will expire after the land is conveyed out of federal ownership and as a result, could encounter difficulty with obtaining a new authorization from a new land owner at some time in the future. If such a situation was allowed to occur, the right-of-way holder could encounter various types of adverse financial impacts, including the possibility of having to re-locate the facility which is currently authorized by the right-of-way, but by converting those rights-of-way to easements, those types of situations will be avoided.

For the lands to be acquired, the conveyance will be issued subject to valid existing rights.

## 4.1.11 Hydrologic and Soil Resources

On the BLM lands, some soil disturbance and hydrologic impact could be associated with any roads built to improve access, harvest timber or convert previously broken lands to cropland after the exchange has been completed. However, no new

roads are anticipated to improve access at this time nor to harvest the small amount of timber on Parcel F114. If timber harvest were to occur on Parcel F114, this would create changes in the hydrologic regime by generally increasing the amount of precipitation that reaches the ground surface and the rate of spring snow melt and decreasing the evapotranspiration within the harvested area. These changes occur rapidly following harvest, but are dynamically changing as regrowth occurs and are difficult to predict.

Soils could become prone to excessive erosion if overgrazing were to occur as a result of the exchange. However, the BLM lands are fenced in with other private land and are already being grazed in conjunction with management and practices currently being used on those private lands.

On the lands to be acquired on the Crow Reservation, there is not expected to be any significant change in the grazing management and practices currently employed by the Crow Tribe on that land.

## *4.2 Impact of No Action*

The No Action alternative assumes that the proposed exchange of lands will not be approved and will not take place. It basically maintains the status quo with regard to land ownership, management policy, and revenues. It does have some consequences because the BLM will still remain under statutory obligation to provide private land exchanges to make up for State land which had previously been conveyed into private ownership.

### 4.2.1 General Geography, Topography and Aesthetics

No impacts are anticipated to the geography, topography or aesthetics of the BLM or private lands under the No Action alternative because ownerships would not be exchanged and land management practices would continue as they have in the past.

### 4.2.2 Climate

Climate would not be affected by the No Action alternative.

### 4.2.3 Groundwater, Geology and Mineral Potential

The No Action alternative would have no effect on groundwater or geology. BLM would maintain both surface and sub-surface estates for the lands it holds. The Crow Tribe would continue its ownership of the private lands proposed for acquisition.

### 4.2.4 Surface Water Rights

There would be no effect on the BLM lands or the private lands. Current holders of those water rights and grazing lessees would continue to utilize water and water developments as has been done in the past.

### 4.2.5 Vegetation

Management practices would continue as they have in the past and consequently, there would be no impact to the vegetation as a result of the No Action Alternative. The exception to this could be for Parcel F114 where BLM could implement timber management to reduce hazardous fuels and the risk of wildfire on the tract. Lands with suitable soils and topography that have potential for cultivation will remain unchanged under BLM management. However, when BLM initiates another private exchange, in order to fulfill the requirements of the Crow Boundary Settlement Act, there would still be the potential for some of those types of BLM tracts to be converted to cropland under private ownership.

#### *4.2.5.1 Rare Plants*

There would be no impacts to rare plants under the No Action alternative.

#### 4.2.5.2 *Noxious Weeds*

No Action would result in the BLM and the Crow Tribe continuing to be responsible for weed identification and control on the lands each entity presently administers. The Crow Tribe also works jointly with the Bureau of Indian Affairs in regards to the control of noxious weeds on Tribal lands on the Reservation.

## 4.2.6 Wildlife Habitat and Fisheries

Wildlife habitat generally would be unaffected and unchanged from present conditions by the No Action alternative.

#### 4.2.6.1 *Threatened and Endangered Species*

There would be no impact to any Threatened or Endangered species under the No Action alternative because land ownership and management would remain as it is currently.

## 4.2.7 Recreation

BLM lands would continue to have recreational use similar to that which currently exists. The private lands also would continue to be used as they have in the past.

## 4.2.8 Cultural Resources

Under the No Action Alternative, there would be no effect to cultural resources on either the BLM or the private lands.

## 4.2.9 Access

Access would not change under the No Action alternative. BLM parcels would continue to be administered under BLM's access policy and the Crow Tribe would continue to administer access on the private lands proposed for acquisition.

## 4.2.10 Socioeconomics

Grazing revenue from the BLM land, PILT payments, and property taxes would continue to be collected as they have in the past. There would be no change if the exchange proposal is not implemented. However, the Crow Tribe would be adversely effected in that they would have to continue to pay property taxes on the private land, whereas if the federal government acquires that land the Crow Tribe would no longer have to pay property taxes on that land.

#### 4.2.10.1 *Timber and Grazing Revenue*

Grazing revenue from the BLM land would continue to be collected and dispersed as it has in the past. Timber harvesting on Parcel F114 would likely not occur in the near future.

#### 4.2.10.2 *Payment in Lieu of Taxes and Property Taxes*

Under the No Action alternative, PILT payments to the State and Counties would continue on the same basis as was done in the past and property taxes would remain unchanged.

## 4.2.11 Hydrologic and Soil Resources

There is no foreseeable change in the hydrologic and soil resources under the No Action alternative because ownerships and management practices would continue as they have in the past.

## *4.3 Comparison of Alternatives*

Table 4-5 compares the alternatives by examining the various impacts for various significant resource issues described in Chapter 3, Affected Environment.

| Table 4-2 Alternative Comparison and Impact Summary | | |
|---|---|---|
| Public or Agency Issues | Proposed Action or Exchange Alternative | No Action |
| Payment in Lieu of Taxes (PILT) | PILT payments for Blaine, Phillips, Madison, and Valley Counties would not be affected. An estimated decrease in PILT payments would occur for Chouteau ($2,483), Fergus ($1,601), Meagher($19), Hill ($219), Rosebud ($8,420), and Custer ($424) if all of the BLM parcels are utilized | PILT payments would continue on the same basis as was done in the past. |
| Public Access | Authorized access routes of record across the BLM lands would be reserved in the conveyance to provide for the continued use of those routes for the purposes intended. Walkin access across some BLM Parcels to get to adjacent State or BLM land would no longer be available after the completion of the land exchange. | Public access on BLM lands would maintain the status quo under BLM management. Access on or across the private land would remain as it currently exists. . |
| Property Taxes | Property taxes in all Counties in which the private and BLM lands are located would be affected. If all of the BLM lands were conveyed there would be an increase in property taxes in Blaine County ($658), Chouteau County ($754), Custer County ($152), Fergus County ($539), Hill County ($60), Madison County ($25), Meagher County ($42), Phillips County ($2,274), Rosebud County ($1,552), and Valley County($880). If all of the private land was acquired there would be a decrease in property taxes for Big Horn County ($5,622) and Yellowstone County ($3,982). Some amounts will be less because not all of the BLM land will be needed to close on the transaction and only that portion of the private land which is equivalent in value to the State land which had been conveyed into private ownership will be acquired. | Property taxes would not be affected in any of the counties if the exchange was not completed. . |
| Grazing Receipts | All Counties where BLM leased land is disposed will have a reduction in the disbursement of grazing receipts. This reduction will be minimal due to the following factors: 1)The return of grazing fees from BLM to the State is 12 1/2% of fees collected within a grazing district and 50% of fees collected on land outside of a grazing district, 2)The total amount of grazing fees collected is relatively small due to the low number of AUM's on most of the BLM parcels, 3)The low fee charged per AUM which is $1.35/AUM, and 4)That portion of the reduction in overall grazing fees will be spread over nine counties. | There will be no change in the amount of funds collected by BLM for those parcels that are currently leased and disbursements to the State and Counties will continue on the same basis as in the past. |
| Harvesting of Timber | Parcel F114, which is 40 acres in size, has merchantable timber on 25 acres of it. This timber could be harvested after conveyance. However, due to the small size of the harvesting area, the fact there is no water or streams on the tract, and existing roads in the area would likely be utilized, it is expected that impacts would be minimal. | The timber could be harvested by BLM but due to the small amount available, such an action likely would not occur in the near future. |

| Table 4-2 Alternative Comparison and Impact Summary | | |
|---|---|---|
| Public or Agency Issues | Proposed Action or Exchange Alternative | No Action |
| Conversion of some BLM Parcels to Cropland | Some BLM parcels have soils and topography suitable to dryland cropland and could be cultivated after conveyance. This is especially true of Parcels H001 which has cultivated cropland on three sides of it and H011 which is surrounded by cropland. However, this conversion to cropland is not expected to occur in the near future due to severely depressed grain markets, the current emphasis to reduce grain production through the CRP Program, and other similar efforts. | The status quo would be maintained. |
| Wildlife Habitat | Current management of most BLM tracts conveyed into private ownership will likely not change because they are suitable only for grazing purposes. However, wildlife habitat could be effected if the merchantable timber is harvested on Parcel F114 and those BLM parcels which have suitable soils and topography are converted to dryland cropland, but those impacts are not expected to be significant as none of them provide critical wildlife habitat. | There would be no change to present management of wildlife and habitat. |
| Cultural Resources | All of the BLM land has had a Class III cultural inventory completed on them and there are no significant cultural sites on the tracts. The private land to be acquired has three significant cultural sites which would require mitigation if any surface disturbing action was proposed in those specific areas. | There would be no effect to cultural resources. |
| Use of BLM Tracts Listed in Appendix A | The impacts which would occur if these tracts were used have been analyzed in this EA, along with other BLM tracts which were specifically identified for disposal in the West HiLine, Powder River Resource Area, and the Judith-Valley-Phillips RMPs. All of these tracts meet the disposal criteria in those RMPs, especially since their use will assist in the fulfillment of the requirements and mandates of the Crow Boundary Settlement Act. | The status quo would be maintained. |

# 5.0 CONSULTATION AND COORDINATION

This chapter lists State, federal and other agencies consulted in the Crow Boundary Settlement Act land exchange process.

## 5.1 Federal Agencies

US Department of the Interior, Bureau of Land Management
US Department of the Interior, Bureau of Indian Affairs

## 5.2 State Agencies

Department of Fish, Wildlife and Parks
Department of Natural Resources and Conservation
State Historic Preservation Office
Montana State Library -Montana Natural Heritage Program

## 5.3 Tribal Governments

Crow Tribe
Blackfoot Tribe
Chippewa Cree Tribe
Gros Ventre & Assiniboine Tribes
Assiniboine & Sioux Tribes
Northern Cheyenne Tribe

## 5.4 Local Government

Big Horn County Commissioners
Blaine County Commissioners
Chouteau County Commissioners
Custer County Commissioners
Fergus County Commissioners
Hill County Commissioners
Madison County Commissioners
Meagher County Commissioners
Phillips County Commissioners
Rosebud County Commissioners
Valley County Commissioners
Yellowstone County Commissioners

## 5.5 Non-Governmental Entities

Montana Stockgrowers Association
Montana Association of State Grazing Districts
Craig Knowles, Fauna West Wildlife Consultants — "Results of Wildlife and Vegetation Surveys on Candidate Phase IV Exchange Lands for the 107th Meridian Crow Boundary Settlement Act of 1994 (Rosebud and Custer Co. Lands)" dated August 22, 2000

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Fairfield, MT 59436

James W. Patrick and June Kerr
1741 South Boulevard
Houston, TX 77098

Jean Bearcrane
Crow Tribe Legal Dept.
Box 310
Crow Agency, MT 59022

U.S. Fish & Wildlife Service
P.O. Box 30396
Billings, MT 59107-0396

MT Dept. of Fish, Wildlife & Parks
Supervisor Region 7
P.O. Box 1630
Miles City, MT 59301

Billings Rod & Gun Club
P.O. Box 33
Billings, MT 59103

SE MT Sportsmen's Assoc.
3708 Harry Cooper Place
Billings, MT 59106

Earl Old Person
Chairman, Blackfeet Tribal
Business Council
P.O. Box 850
Bowning, MT 59417

Bert Corcoran
Chairman, Chippewa Cree
Business Committee
Rocky Boy Indian Res.
Rocky Boy Route
P.O. Box 544
Box Elder, MT 59521

Joseph McConnell
President, Gros Ventre &
Assiniboine Tribes
Fort Belknap Comm. Council
Route 1, Box 66
Harlem, MT 59526

Caleb Shields
Chairman, Assiniboine & Sious
Tribes
Fort Peck Tribal Exec. Board
P.O. Box 1027
Poplar, MT 59255

William Walksalong
President, Northern Cheyenne
Tribal Council
P.O. Box 128
Lame Deer, MT 59043

Gerald Pease
P.O. Box 556
Lodge Grass, MT 59050-0556

Salmond Ranch Company
P.O. Box 606
Chouteau, MT 59422

# APPENDIX A—Notice of Intent to Amend the Powder River Resource Area, West HiLine and Judith-Valley-Phillips Resource Management Plans

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
{Docket No. 4310 - DN}
Notice of Intent

[Montana]
[MT-924-00-1430-HN-003E; MTM88487, MTM88479, MTM89430]

Notice of Intent to Amend the Powder River Resource Area, Judith-Valley-Phillips, and the West HiLine Resource Management Plans; Blaine, Chouteau, Rosebud, and Valley Counties, Montana

AGENCY: Bureau of Land Management, Interior

ACTION: Notice

SUMMARY: Notice is hereby given that the Bureau of Land Management (BLM) will amend the Judith-Valley-Phillips Resource Management Plan (RMP), Powder River Resource Area RMP, and the West HiLine RMP with respect to management of public lands in Blaine, Chouteau, Rosebud, and Valley Counties. The BLM proposes to utilize 2,121.54 acres of Federal surface estate in the aforementioned Counties, for which an RMP amendment is needed, to assist in the completion of Phase 4 of the Crow Boundary Settlement Act Land Exchange. These Federal lands will be exchanged for private land within the Crow Indian Reservation in Big Horn and Yellowstone Counties. The Federal land is legally described as follows:

| | Acres |
|---|---|
| Blaine County | |
| T31N, R25E, PMM | |
| sec. 21: Lots 2 and 5 | 73.21 |
| sec. 23: Lot 4 | 34.06 |
| sec. 26: Lots 1 and 6 | 28.19 |
| sec. 27: Lot 1 | 6.06 |
| sec. 28: Lot 1 | 13.44 |
| Chouteau County | |
| T23N, R15E, PMM | |
| sec. 24: NW SW | 40.00 |
| sec. 25: NENW | 40.00 |
| Rosebud County | |
| T4N, R43E, PMM | |
| sec. 22: All | 640.00 |
| sec. 26: N2N2 | 160.00 |
| sec. 28: Lots 3 and 4, E2SW, SE | 326.58 |
| sec. 32: SENW | 40.00 |
| sec. 34: All | 640.00 |

Valley County
T23N, R34E, PMM
sec. 14: E2NW 80.00

Disposal of the Federal land described above was not analyzed in the aforementioned RMP's and their associated Environmental Impact Statements. Disposal of the Federal land requires that the specific tracts be identified in the land use plan with the criteria to be met for exchange and discussion of how the criteria have been satisfied. This will be part of the plan amendment and an Environmental Assessment will be prepared to analyze the effects of disposal.

DATES: Comments and recommendations on this notice to amend the Judith-Valley-Phillips RMP, the West HiLine RMP, and the Powder River Area RMP should be received on or before September 25, 2000.

ADDRESS: Comments should be sent to BLM Montana State Director, Attention: Russ Sorensen, P.O. Box 36800, Billings, Montana 59107-6800.

FOR FURTHER INFORMATION CONTACT: Russ Sorensen, Realty Specialist, 406-683-8036.

Dated: August 15, 2000

/s/ Howard A. Lemm
Acting Deputy State Director, Division of Resources

# APPENDIX B— US Fish and Wildlife Service candidate, threatened and endangered species, BLM species of special concern, and BLM watch species

The following is a list of US Fish and Wildlife Service candidate, threatened and endangered species, BLM species of special concern, and BLM watch species that have some probability of occurring on one or more exchange land sites.

| Common Name | Scientific Name | Status* |
|---|---|---|
| Mammals | | |
| black-tailed prairie dog | *Cynomys ludovicianus* | BLM SSC FWS C |
| swift fox | *Vulpes velox* | BLM SSC |
| Birds | | |
| Baird's sparrow | *Ammodramus baidii* | BLM SSC |
| bald eagle | *Haliaeetus leucocephalus* | FWS T |
| burrowing owl | *Athene cunicularia* | BLM SSC |
| ferruginous hawk | *Buteo regalis* | BLM SSC |
| interior least tern | *Sterna antillarum* | FWS E |
| loggerhead shrike | *Lanius ludovicianus* | BLM SSC |
| mountain plover | *Charadrius montanus* | BLM SSC FWS C |
| peregrine falcon | *Falco peregrinus* | FWS T |
| Swainson's hawk | *Buteo swainsoni* | BLM SSC |
| Piping Plover | *Charadrius Melodus* | BLM SSC FWS T |
| Reptiles | | |
| snapping turtle | *Chelydra serpentina* | BLM SSC |
| spiny softshell turtle | *Trionyx spiniferus* | BLM SSC |
| Plants | | |
| Dwarf Wooly-Heads | *Psilocarphus Brevissimus* | |
| | *Var Brevissimus* | BLM W |
| Little Indian Breadroot | *Psoralea Hypogaea* | BLM W |

BLM SSC = Bureau of Land Management Species of Special Concern
BLM W = Bureau of Land Management Watch
FWS C = Fish and Wildlife Service Candidate
FWS T = Fish and Wildlife Service Threatened
FWS E = Fish and Wildlife Service Endangered



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